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ABSTRACT

The 30 papers presented at Wake Forest University's 1997 Annual Research Forum (Winston-Salem, North Carolina) are as follows: "To Sprint or Crawl: The Effect of Classroom Activities on Student Behavior: (R. Allen); "Generating Good Grammar: Traditional and Whole Language Approaches" (D. Alexander); "Effective Teaching Methodologies for ESL Students Learning Secondary Science: Recommendations from the Field" (B. Bautista); "Problem Solving Abilities of Advanced Mathematics Students" (A. Bloom); "The Effects of Writing to Learn on Student's Test Scores" (C. Bolt); "Ocean Knowledge and Attitudes of North Carolina High School Students: Do Coastal Students Know More?" (B. Burkhalter); "Error Correction in the Foreign Language Classroom" (N. Chremos); "The Effect of Database Use on Secondary Achievement and Attitude" (A. Clifton); "Adding Relevance to Poetic Concepts through Modern Song Lyrics" (S. Cooney); "Political Efficacy: Factors Contributing to Civic Confidence" (J. Craig); "Applying Multiple Intelligences Theory in the Elementary Foreign Language Classroom" (S. Decker); "Individual Response Journals vs. Group Response Journals" (K. Else); "What Motivates Academic Achievement?" (C. Gaskell); "High School Students' Perspectives on Good and Bad Teachers" (C. Goodgame); "Controlled Chaos? Teachers' Questions and Students' Behavior in Large Group Discussions" (K. Greene); "Teacher Control and Release and Student Attention" (P. Gruber); "Teaching as Situational Art: An Exploration of Questioning and Analogy in the Secondary Mathematics Classroom" (C. Gupton); "Do Textbooks Stimulate Students? Student Attitudes toward High School Biology Textbooks" (E. Herrin); "Class Discussion: What Helps. What Hurts" (L. Huntley); "Foreign Language Study in High School: Is Two Years Enough?" (R. Jeremiah); "Enhancing Social Studies Learning: What Students Prefer" (L. Martin); "The Role of Current Events in the Social Studies: An Assessment of Student Attitudes and Lesson Composition" (J. McEnaney); "Prereading: What Works?" (T. Moffitt); "Writing Instruction Approaches in the High School English Classroom and Students' Writing" (K. Osterhaus); "Surveying Students' Opinions about Dissection and the Influence

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of Animal Rights Groups and/or Marketing of Non-Animal-Tested Products" (A. Searle); "The Effects of Race and Gender on Students' Perceptions of Social Studies" (D. Shabazz); "Facing the Hurdles: Perspectives of First-Year Mathematics Teachers" (L. Tyler); "Testing What You Teach: Speaking Skills in the Foreign Language Classroom" (E. Waters); "Teaching Methodologies for Special Needs Students in the Foreign Language Classroom" (E. West); and "Passive vs. Active Learning: A Qualitative Study" (J. Zeichner). (Papers contain references.) (SM)

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Studies on Teaching 1997 Research Digest

WAKE FOREST UNIVERSITY

Research Projects Presented at Annual Research Forum

Wake Forest University
Department of Education
Winston-Salem, NC
December, 1997

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Studies in Teaching
1997 Research Digest

Research Projects Presented
at Annual Research Forum
Wake Forest University
Department of Education
Winston-Salem, NC

Edited by
Leah P. McCoy

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To Sprint or Crawl:

The Effect of Classroom Activities on Student Behavior

by

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with

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Wake Forest University

Department of Education

December, 1997

Introduction

This study attempts to discover how the number of classroom activities per class period impacts student behavior. Is it wiser to sprint through the class period offering students many different activities or to crawl through the period presenting one idea and attempting to thoroughly cover that one concept before moving on? A teacher may have an excellent grasp of his or her material, yet the class may remain a chaotic landscape if they are unable to control negative student behavior. My study looks at classroom activities as one aspect of the classroom that may contribute to an environment more conducive to learning. Are students more at ease in a classroom where they are constantly presented with a new activity and several activities in each period, or is it better to concentrate on one or two activities? Do students become restless if they are provided with one activity or concept per class period or are they overwhelmed by large amounts of information? These are questions every teacher must attempt to answer. In choosing this topic I expected to discover that students are more stimulated by a classroom in which the teacher provides a variety of activities to occupy the young student's mind. My theory was that negative behavior would decrease in a classroom in which the teacher provided the students with numerous activities to occupy their minds and bodies.

Review of Literature

I began my review of existing research by trying to discover studies similar to the one I intended to pursue. This proved more difficult than I anticipated. It appears that such research

does not exist or is well hidden. This forced me to alter my approach. I decided to look at issues such as attention span, time use in the classroom and television's effect upon the learning capacity of children. These issues are all involved in how students approach the classroom experience. They are also useful in their ability to demonstrate what works or does not work in the classroom.

The use of multiple activities in a single class period may be chided for not allowing students ample time to absorb the material presented to them. Wayne Fredrick and Herbert Walburg's study looked at the instructional time of students. They found time of instruction to be only a modest predictor of success in the classrooms they studied. They indicate that time of instruction may be an excellent predictor of success with certain types of new material, when other variables are controlled. Conversely, when the subject is somewhat familiar and frequently taught or improperly measured, time is a weak predictor. The researchers point out that time may be negatively correlated to achievement when additional time is used to compensate for ineffective instruction. The vital aspect of instruction is quality, not quantity. A classroom with five well prepared, clearly taught activities will prove much more successful than a class period with two unclear activities. Giving more time to an idea or concept is no replacement for providing the student with quality instruction.

These findings are supported by the work of Marshall Arlin. Arlin studied 50 teachers and discovered that a variety of activities may meet with limited success if teachers do not properly structure the time. Again quality rather than quantity is the necessity. Arlin noted that transitions might disrupt the flow of the classroom. Disruptive behaviors increased during transitions that lacked structure provided by the teacher. To combat this Arlin states that teachers must make it clear what they expect from the students during this unstructured time in the classroom. If the time is not organized disruptive behavior will increase. This study does not condemn teachers who rely on a variety of activities, but cautions them that a plan including many activities must also include guidelines for the transition from one classroom event to the next. This illustrates how poor transitions may negate any benefits derived from a lesson plan involving many activities. The teacher must remember that simply tossing several activities at students is not the panacea for all behavioral problems. This study demonstrates the importance of organization in alleviating potential negative behavior among students.

Jeffrey Mortimer looks into the effect of television on children. He specifically speaks of the effect of television violence on young people. He cites three studies conducted over the past thirty years, which demonstrate a link between exposure to television violence and aggressive behavior. Ideas are discussed for training teachers and students to deal with this aggression. It was enlightening to learn that the content of television, not merely the format, is demonstrated as an influence on student behavior. Aggression in the classroom may lead to disruptions. In providing students with more stimulating activities and therefore allowing them less idle time, a teacher may redirect a student's aggression. This study would support a program of multiple activities per class period. The activities would provide the student with an avenue to channel this aggression.

This represents a brief sample of the research I have compiled. It suggests that a number of factors affect the success or failure of a classroom. Students' minds must be engaged for the learning process to succeed. The research on television demonstrates that television may negatively impact students, but the time is past when teachers may blame student inattentiveness on their addiction to television. At best the research is inconclusive on this point. Research does offer that aggressive behavior, and from that one may extrapolate disruptive behavior, is reinforced by the images of television. It is more likely that student inattentiveness is directly related to the amount of structure and enthusiasm provided by the teacher. The one constant throughout the research is that regardless of the approach, the student must be considered first. If the students cannot handle freedom then it is likely that more structure is required. The research points to many ingredients that create the perfect taste for the classroom. The number of activities proves to be one of the basic ingredients in the recipe.

Methodology

I began my research by creating a checklist to be completed during classroom observations. I consulted Dr. Joseph Milner and we agreed that to fulfill the needs of my research I should include several markers, which demonstrate classroom behavior. The checklist consisted of eleven positive and negative behavioral markers. These behaviors represented an attempt on my behalf to record the frequency of positive and negative behaviors in the classroom and link this with the number of activities each teacher presented to the students. The checklists were completed during classroom observations at East Forsyth High School in Winston-Salem,

North Carolina. I observed four separate teachers on seven occasions. Each teacher taught a different grade level. The classes ranged from ninth to twelfth grade. During the observations I was not a participant in the classroom. I merely watched the students and took note of their behavior. When the observations were complete I tallied the results and converted them to an average for each teacher's classroom in each of the eleven categories.

Results and Conclusions

My results did not provide the information I had hoped for when I began my research. The four teachers I observed did not offer vast differences in the number of activities. When I calculated the average number of classroom activities for each teacher's classroom I found that the teacher averaging the fewest activities, teacher A averaged 3.29 activities per class period, only 1.57 fewer activities than the teacher providing the most activities, teacher B. Teacher B averaged 4.86 activities per class period. I also noted that there was little variance on individual days. The fewest activities offered by any teacher during a class were 2 and the most were 6. The teachers were fairly consistent during the period of observation. When the results from teacher A and teacher B are compared they are strikingly similar. There are slightly more students talking per class in teacher B's classroom, but conversely there are more students answering questions in teacher B's classroom.

These results do prevent me from providing a formula for perfect student behavior in the classroom. They do not, however, prevent me from coming to some important conclusions about what affects student behavior. I began this study with the intent of proving that an increase in classroom activities produces a decrease in negative student behavior. The results of my study do not prove my hypothesis. What I did discover was that behavior is affected by a myriad of influences. The teachers each approached their classes with a different style. Over the course of my observations I noted that one of the most important factors for the teachers was the ability to know their class. I observed one of the teachers presiding over a lecture that dominated most of the class period and the students were transfixed. On other occasions I witnessed lectures where the teacher could barely get through a sentence without a student talking or disrupting the class. I also observed another teacher providing students with multiple activities throughout the course of the class and the class teetered on the brink of chaos. I noted that what worked in a teacher's class on one day did not necessarily work in another teacher's class or the same teacher's class

on another day. The only classroom activity that brought calm to every classroom was a test. In each of the classrooms where I observed a test, the students behaved quite well during the test.

The number of activities that a teacher utilizes in a class period proved to be a poor predictor of student behavior in my observations. This reinforces the notion that teaching is not an exact science. Every teacher is forced to conjure up their own formula for success, based upon a variety of factors. Teachers must first know their students and their needs. Some classes require constant stimulation, while others need time to digest information. It is the gifted teacher who can determine what is required. This study leaves one with the idea that teaching is not an exact science. It is much more than that, it is an art form.

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GENERATING GOOD GRAMMAR:
TRADITIONAL AND WHOLE LANGUAGE APPROACHES

by

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with

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Department of Education

December, 1997

INTRODUCTION

As instructors of English prepare for the twenty-first century, they find it necessary to reassess many of the instructional techniques that have been used in the past and that are used in the present. English instruction has changed greatly over the course of the twentieth century, and educators would like to prepare to teach the students of the future with the most effective methods possible. The instruction of grammar rules and guidelines has been a source of concern for many educators; traditional grammar lessons oftentimes have been abandoned due to apathy on the part of students and frustration on the part of teachers. Though much debate has occurred as to whether or not to continue any type of grammar instruction, most researchers and educators agree that a knowledge of grammar rules is necessary for students to become effective writers. My study examines the most effective ways by which grammar instruction can be incorporated into the English classroom of the present day. With innovative strategies and adaptive lessons, students in the English class of the twenty-first century can be even more knowledgeable about the solid foundation on which the English language depends than students of the twentieth century.

REVIEW OF LITERATURE

As part of my review of the literature on the subject of grammar, my first goal is to establish the true definition of grammar to the instructor and student of English. Some researchers view "language as a type of rule-governed behavior. Grammar, then, is a subset of those rules which govern the configurations that the morphology and syntax of a language assume (Celce-Murcia and Hilles, 1988)." The study of grammar allows students to learn guidelines to follow in their writing in order for meanings to be clear and understood fully by their audiences. Many researchers and educators question whether grammar should be taught at all, but most agree that "Just as we cannot study chemistry without the Periodic Table, we cannot confidently produce or analyze good writing without the rules that govern it or the terms we use to discuss it (Duckart, 1995)."

The definition is relatively simple, but the most effective method by which to instruct students in this subject still eludes professional educators to some degree.

The traditional, or "formal," method of teaching grammar is the least popular method at this time, according to research. Noguchi (1991) asserts that "formal grammar instruction, as commonly conceived and practiced, has failed to produce significant writing improvement." A separate lesson of grammar instruction is considered retrogressive and even detrimental to educational standards, for it focuses on the technical aspects of a student's writing and not on the content.

The most popular method of grammar instruction is considered to be the whole language approach. Using the whole language approach, educators incorporate grammar instruction only when necessary during the writing and revising processes. Weaver (1996) suggests that "teaching 'grammar' in the context of writing works better than teaching grammar as a formal system, if our aim is for students to use grammar more effectively and conventionally in their writing." Grammar "mini-lessons" are introduced, using the whole language approach, only when the instructors see a need for a particular guideline to be taught. Holden (1994) states that "Because each student's writing is idiosyncratic, each student violates different rules of grammar. Thus, no teacher can address this multiplicity of individual errors via formal grammar instruction to an entire class." With the whole language approach, teachers only give grammar lessons when they are necessary to alleviate a problem with a student's writing, and this process leaves much more time for thinking, reading, and writing.

Other approaches such as rhetorical grammar, transformational grammar, and "Sentence Sense" (Hunter, 1996) have been studied and used in research, but the primary question facing instructors in the present day is whether or not to follow the traditional method of teaching grammar which includes diagramming sentences and punctuation drills or to attempt to teach with the whole language approach that incorporates short grammar lessons into the process of writing and revising essays and stories. Through the results of my study, I express what teachers and students think about the type of grammar instruction that either is effective or would be effective in their own English classes.

METHODOLOGY

SUBJECTS and PROCEDURES

In the implementation of my study, I sent surveys regarding grammar instruction to ten English teachers and questionnaires to 226 students at a high school in the Winston-Salem/Forsyth County School System. The teachers instructed classes ranging from ninth to twelfth grades, and their classes ranged from Honors English to Practical English courses. The students represented grades ranging from ninth to twelfth, and their class levels ranged from Honors English to Practical English. The teachers were randomly selected from a sample of all English teachers at the high school. The students were those who attended the first classes of the surveyed teachers' daily schedules. No names, social security numbers, or any other identification processes were collected or used in the analysis of the data.

ANALYSIS

Data from the teachers' surveys and students' questionnaires were organized and summarized using both descriptive and qualitative analysis. Responses to the surveys and questionnaires were computed in order to analyze the accurate views of both teachers and students on the process of learning grammar and the effectiveness of grammar instruction that previously had been experienced.

RESULTS AND CONCLUSIONS

From the ten teachers surveyed, three taught ninth grade classes; three taught tenth grade classes; four taught eleventh grade classes, and two taught twelfth grade classes. Eight of the teachers taught Honors English; eight taught Regular English, and one taught a Practical English

class. Seven teachers agreed that different grades and ability levels require differences in the kinds of instruction that are necessary in order to teach grammar effectively; three did not agree. One teacher agreed that students are well prepared in grammar skills when they enter his or her classroom as new students; nine teachers disagreed. Four teachers agreed that certain days, months or semesters should be set aside for instruction in grammar skills; six disagreed. Eight teachers agreed that, as an educator, he or she finds that he or she has often varied his or her methods of grammar instruction during the course of his or her teaching career; two disagreed. Six teachers agreed that their students often readily accept grammar instruction as a positive part of their day; four disagreed. Six teachers agreed that grammar should be taught through literature and the writing process, not as a separate lesson in itself; three disagreed, and one did not comment. Three teachers agreed that, as educators, they had found that one method of teaching grammar to adolescents had proven the most effective; seven disagreed. Eight teachers agreed that adolescents often reject grammar instruction; three teachers disagreed. One teacher agreed that students understand correct grammar rules and practice them regularly in speaking and in writing; eight disagreed, and one did not comment. Eight teachers agreed that students do not understand correct grammar rules and do not practice them regularly in speaking and in writing. One teacher disagreed, and one did not comment. Three teachers agreed that the present curriculum puts a great enough emphasis on grammar instruction, and seven disagreed.

Of the 226 students surveyed, fifty-two were in ninth grade English classes; seventy-six were in tenth grade classes; seventy-one were in eleventh grade classes, and forty were in twelfth grade classes. From the number surveyed, 124 students were in Honors classes; 102 students were in Regular classes, and eight were in a Practical English course. 174 students agreed that English classes should be organized to teach grammar rules at separate times from literature and writing; 52 disagreed. 121 agreed that learning grammar rules and following them is easy for them to do; 97 disagreed. 188 students agreed that they remember more grammar skills from English classes if teachers explain grammar rules and procedures in a simple lesson focused on grammar; 37 disagreed. 148 students agreed that they learn good grammar skills more easily by writing and then reading the corrections and remarks given to them by English teachers; 73 disagreed. 133 agreed that they do not like learning about grammar; 93 disagreed. 161 students agreed that they feel they are getting a good education in grammar rules and can use them well;

67 disagreed. 199 students agreed that they felt that their English teachers knew good grammar rules and practiced them always; 29 disagreed.

The opinions of these teachers and students complement the research on grammar instruction in English classes. The majority of the teachers agreed that it is necessary to incorporate grammar lessons into the writing process and not set aside certain class periods to teach it. Though the majority of students agreed that simple lessons focusing on grammar were more effective, the majority also agreed that they learn good grammar skills easily by writing and then reading the corrections and remarks given to them. The conclusion that I have reached as a result of this study is that the two methods should be combined so that simple explanations are given for grammar rules and guidelines as a part of the corrective processes of editing and revising. It is not necessary or even recommended to stop teaching grammar; it is simply necessary to modify the ways in which we go about doing it.

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Effective Teaching Methodologies for ESL Students Learning Secondary Science: Recommendations from the Field

by

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Department of Education

December, 1997

Introduction:

English as a Second Language (ESL) learning poses a challenge for 6 million students attending U.S. public secondary schools (Bernhardt et al, 1996). Second language acquisition, social adjustment to this country, and learning subject area knowledge reveal only a portion of an ESL student's story in America. Numerous factors are influential in each of these areas. For example, Hvitfeldt (1996) found the level of literacy in students' first language greatly affected her Hmong students' study of English. Collier (1987) discovered the age of immigration influenced second language acquisition. Students who immigrate between 12 and 15 years of age might require 6-8 years to reach national average standardized test scores. Barba (1993) found a clash between the culture of science in American schools and some immigrant cultures that harmed students' acquisition of subject knowledge. He discovered these inconsistencies prevalent among Hispanic/Latino and U.S. science classroom cultures. Hvitfeldt's (1986) study confirms this. Her Hmong subjects have more communal, or field-dependent, values and had difficulty with U.S. classroom norms. Levels of social acceptance have been studied by Kanno and Applebaum (1995), David and McDaid (1992), and Penfield (1987). All found prejudices held by students and teachers, which hindered ESL students' learning.

Despite the factors affecting students' learning of English and other subjects, some studies have pointed to effective teaching methodologies or programs. Chamot (1995) evaluated the Cognitive Academic Language Approach (CALLA) in Arlington, VA, which offers a student-centered approach that allows students to evaluate their progress and delineate their needs. Furthermore, biology and ESL teachers work together to plan lessons for these students.

Lee and Frad (1996) and Teemant, Bernhardt, and Rodriguez-Munoz (1996) all agree that pictorial representations, although not solely effective, aid in students' understanding. The latter study also advocates grade level textbooks for ESL students so biology concepts match students' cognitive level. "Elaborative adjustments" such as more examples, pictures, demonstrations, and labs are suggested to help students piece together concepts.

Obviously, the research on secondary science and ESL teaching and learning remains incomplete. To add to this knowledge base, the following study will investigate the null hypothesis that no science teaching methods have been found which are more beneficial for ESL students than for the majority in secondary schools. Many teachers have a rich background teaching ESL students science. This study attempts to capture their invaluable findings.

Methodology:

Subjects: Seven high school science teachers took the survey. The pool of subjects included those affiliated with organizations dealing with ESL and/or science teaching issues, such as the following: TESOL (Teachers of English as a Second Language), the Collaborative for Academic Excellence (El Paso, TX), and the Annenberg Institute for School Reform (Providence, RI). Postings were placed on various internet newsgroups serving ESL and science educators. Each teacher was assigned a code letter to protect their identities. Since wide-scale demographic data is necessary for complete analysis of the study, demographic descriptors of teaching locations was used.

The seven survey respondents live in a wide range of geographic areas. One teaches in Cambridge, MA, one in New York City, two in El Paso TX, and three in the piedmont area of North Carolina. Five are females, and two are males. Four are white, one is Italian-American, and two are Hispanic. Three speak Spanish and have Spanish speaking students in their classes.

Another portion of the study included four high school science or ESL teachers from the same high school in a focus group discussion. Each of them has been assigned an alias name. One teacher teaches a high school science class intended only for lower English proficient ESL students. Another teacher is an ESL teacher at the school. The third teacher teaches lower level science classes that have a few ESL students in each, and the fourth teacher is a retired elementary teacher who works one on one with ESL students. She has also written supplementary science material for ESL students at the school. Their population of high school

ESL students includes a majority of Mexican students, and some Eastern European and South and East Asian immigrants. None of the teachers speak any of the students' native languages. The only inducement offered to both groups of teachers has been the findings of the study.

Procedures: One guided focus group discussion took place in November 1997. This conversation served the purpose of gaining data on teachers' perspectives on science and ESL teaching and learning. Keeping in mind the information gained from the focus-group, a likert-scale and open-ended questionnaire was revised and sent through e-mail, mail, fax, and posted on various internet newsgroup sites.

Analysis: The survey responses were tallied for the seven teachers. The focus group discussion was transcribed and coded according to specific topics within the discussion. These topics fit within the following major categories: students' background, including first language literacy, prior schooling, socio-economic status, and cultural values as they pertain to academics and classroom behavior; ineffective and effective teaching methodologies; teachers' professional needs; and ESL program format. The experiences teachers shared in the focus group discussion and questionnaires pointed to patterns and trends teachers have found in science teaching methodologies that work best for ESL students.

Results and Conclusions:

A few major themes arose among the teachers' responses. In the focus group discussion, teachers spoke about their students' background factors and how they affect their learning of science and English. They noted that students who are highly literate in their first language have a less difficult adjustment to American classrooms. Since symbolic language allows us to encae our thoughts, highly literate cultures often think on more abstract levels. Ideas can be shared, written down, put away for a while, and then debated again later. Thus, those that grow up in cultures that practice these habits of mind resulting from symbolic language use, will more easily translate those skills to their new language. Similarly, students' classroom behavior and study patterns correlated with the amount of prior schooling. One teacher noted that many students with little or no prior schooling have never seen a typical, well-behaved American classroom. She realizes that students cannot emulate something they have not seen, and is trying to devise ways in which students can learn these behaviors to ensure their success in a new country.

English acquisition and science learning, independent from one another, challenge students. As one teacher noted, English acquisition usually occurs through speech and listening first, then through writing and reading. Since American science classes depend so heavily on the written word, ESL students often have difficulty. The focus group teachers spoke of science as a kind of third language for students, since it is so dependent on vocabulary.

Teachers have found some effective teaching methodologies. The largest theme of the discussion was simplicity. They spoke about simplicity of teacher speech to students, textbooks, and directions to activities. As one teacher stated, "the fewer the words the better." They all acknowledged this must be done without sacrificing content. In addition, providing ESL science students with visual supplements is helpful. One focus group teacher emphasize all important words used in speech should be written as they are said, and pictures, physical models, hand gestures, and facial expressions should also be used. In lesson planning, classes, they said, should be highly structured, and should integrate all three areas of language: oral, writing, and reading skills. One teacher noted, "If you're sitting and you're talking...at the lower [ESL] levels, something's wrong." Similar findings were discovered in 6 of the 7 surveys returned. This same teacher advocated a methodology often used in ESL classes called Total Physical Response (TPR). She described this method in which the teacher gives a command, such as "touch your left shoulder," and students physically do it. She believes students remember because "the body remembers." Since vocabulary is such a difficult part of science learning for ESL students, many teachers named particular games they play with their students that incorporate flashcards, or student participation. Teachers also ask students for words in their first language to aid understanding of difficult topics. The major theme of the focus group discussion was that background factors must be a consideration in developing effective teaching methodologies.

Both groups of teachers shared some teaching methodologies they feel are least effective. As mentioned earlier, almost all teachers feel lecturing to ESL students is ineffective, especially without the aid of visuals or models. Two of the focus group teachers emphasized the inappropriateness of essay questions on exams and long writig assignments. One teacher found that materials intended for ESL students have not been that helpful. For example, Spanish science tapes helped her Mexican students little, probably, as another teacher speculated, because their first language literacy is not very high.

Teachers have found racial trends in effective teaching methodologies. Their Mexican students, coming from a more community-oriented background, prefer group work to lectures. In contrast, their Asian students, who have a great amount of prior schooling, prefer traditional lectures. The latter group, however, has more difficulty expressing opinions and creativity.

The teachers in the focus group discussion spoke of the need for more teacher support. They particularly desired more staff development and training on ESL teaching methodologies. In addition, they implied the need for smaller class sizes. This would allow them to decipher their students' needs more easily, and cater their teaching to the students they have. The survey respondents also revealed similar trends. Except for one teacher gaining her masters' degree in ESL, none had taken any college courses addressing ESL students' needs.

Further study is needed on effective teaching methodologies that can help ESL students gain understanding of science. Educators still question whether mainstreaming, separating ESL students, or offering bilingual is the most effective means of teaching ESL students. This study reflects that. Teachers in the focus group felt separating lower level ESL students for science could be the most effective means, however without smaller class sizes, more ESL training, and knowledge of more effective ESL program prospects, they still continue to perfect their craft.

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Problem Solving Abilities of Advanced Mathematics Students

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Introduction

According to the NCTM Curriculum Standards, developing students' problem solving skills should be a focus of high school mathematics teachers. The ability to think creatively and solve problems is paramount in almost every career path and should, therefore, be the focal point in preparing students to move into the real world. When students reach high school they often struggle to come up with an effective method to solve original problems.

Review of Literature

The first step to solving any problem is to come up with a plan of action. This process involves metacognition, which is the "learner's awareness of such processes as planning, monitoring, and evaluating their work toward a solution of a specific mathematical problem" (Fortunato, Hecht, Tittle, & Alvarez, 1991, p. 38). In incorporating metacognition in the classroom, teachers should ask questions and give assignments that require students to reflect on, analyze, and report on their mathematical knowledge and behaviors. The teacher should also make an effort to point out various aspects of mathematical tasks and should demonstrate his or her own metacognitive processes during instruction in order to model possible methods for their students (Garofalo, 1987). Once students become better at understanding their own thought processes, it becomes possible for them to attack problem solving with new vigor.

It is essential for teachers to learn how to incorporate good questions in their lessons. Teachers should strive to incorporate questions that stimulate classroom discussion. Questions of this type have three features: the students are required to do more than simply remember a

strategy to answer them; the student can learn in the process of answering the questions; and the questions have several acceptable answers (Sullivan & Clarke, 1991). Good questions encourage creative thinking by students and present students with problems with multiple solutions. Teachers should try to ask questions that allow students more than one path to get to a correct answer. This is important because it caters to the diversity of students in learning rate and learning style. It is important to realize that students will not always find the most efficient way to solve problems. Because they develop the method themselves, it is likely to be the best way for them to solve the problem. Once a student gains an understanding of the intricacies of the problem, the teacher can guide the students toward a more efficient method of solution.

Once a teacher has begun to use well designed questions in their lessons, the next obstacle is to help students become better problem solvers. A very successful way to make students better problem solvers is to make them better problem posers. A study conducted by Rudnitsky, Etheridge, Freeman, & Gilbert (1995) showed that students who spent weeks developing problems before they began solving problems had greater problem solving ability and greater retention than a group that only solved problems ten weeks after the experiment ended. Another way to develop problem solving ability in students is to present them with games that require them to use mathematical strategy. The strategies inherent in these games all work on mathematical intuitions that are important for students to develop in order to gain more confidence in solving problems.

When students are introduced to problems that require creative problem solving, they run into new situations that they must deal with. If students can negotiate the twists and turns of a problem with only a little resistance they will likely feel a sense of pride and accomplishment. If, however, a student struggles with the problem, they are likely to feel frustration that will grow as their struggle continues. This is an important time for teachers and students as this is where students will gain or lose their interest in math. Students should be told that frustration "is not a signal to quit but a sign that the problem may take a concentrated effort, a reasonable period of time, and several different strategies before a solution can be found" (McLeod, 1993, p. 762). In examining successful teachers, McLeod identified a number of factors that contribute to success in teaching problem solving. "All of the teachers presented themselves as problem solvers who didn't know all of the answers. They all let the student know about their own struggles in solving hard problems as well as their satisfaction and pleasure when they found a solution. Successful

teachers made frequent use of cooperative groups, encouraging students to discuss problems and alternative solutions. Finally, all the teachers made it clear that they valued problem solving by assessing students' performance regularly, by giving credit for explanations and strategies as well as for answers, and by holding students accountable for working productively" (McLeod, 1993, p. 763).

Methodology

Six students were chosen at random by a precalculus teacher at a high school in Forsyth County, North Carolina. At no time did the interviewer have any idea of the student's identities, other than their first names. Each student's worksheet was labeled with only an anonymous title for identification (i.e. Student 1, Student 2, etc.). The students met with the interviewer when it was convenient. Each student was presented with the following problem:

> Three men are camping in the woods and they have a bag of apples with them. In the middle of the night, the first man wakes up, eats one-third of the apples, and then goes back to sleep. Later in the night, the second man wakes up, eats one-third of the remaining apples, and goes back to sleep. Later on, the third man wakes up, eats one-third of the remaining apples, and goes back to sleep. The next morning the men wake up to find that there are eight apples left in the bag. How many apples were there at the beginning of the night?

The students were asked to record all of their thoughts. Upon completion of the problem, the interviewer questioned each student to learn more about the student's thoughts in solving the problem. After conducting the interview, the researcher interpreted the results.

Results and Conclusions

After examining each of the solutions provided by the students, it became obvious that each student used a different methodology for finding a solution. Of the six students who were presented the problem, four, Student 1, Student 3, Student 5, and Student 6, arrived at 27 apples as their answer, which was correct. Student 2 and Student 4, who were incorrect, each thought there were 216 apples.

This problem depended on the students using their intuition to determine exactly what the problem was asking. The students who arrived at the wrong answer got confused between the problem's statement that each man ate one-third of the available apples. Each of them solved the

problem as if the men had each eaten two-thirds of the apples and left one-third remaining. Surprisingly, the answer of 216 apples did not seem unreasonable to either student. Of the four students who arrived at the correct answer of 27, only two of them questioned the reasonableness of the answer. Upon finding a solution, Student 3 commented, "that looks like a lot of apples, now I begin to question whether or not I am right." At this point the student returned to the original problem worked his solution into the problem and arrived at eight apples, which satisfied him that he had arrived at the correct solution. Student 5 got very confused at the answer of 27 apples and convinced himself that he had gotten the wrong answer. Upon trying to find a different method for solving the problem, Student 5 got even more confused and gave up. While five of the six students checked their work upon completing the problem, only Student 3 and Student 5 checked because they were unsure of their answer. The other three students admitted that they checked because they have always been instructed to do so by their teachers.

All of the students, except one, seemed to use the same general formula for solving the problem. Each recorded all of the pertinent information in some way or another and then attempted to use this information to develop a method for finding a solution. Student 1 chose to write down the information in words. This was an effective method for clarifying the information. Student 2 and Student 4 chose to draw diagrams, which they later admitted did not help them to organize the information or clarify what the question asked. Student 3 brainstormed ideas when he completed reading the problem and wrote down everything that would help him get a better idea of what the problem was asking. Student 5 chose to underline all of the important information in the problem and then set out to solve the problem. This was an ineffective method for trying to sift through the information and did not clarify what the question was asking. Student 6 was the only student who did not attempt to clarify the problem before trying to solve it. She told the interviewer that she saw a way to solve the problem immediately and was not confused by the wording of the problem.

Interestingly, four of the six students were unsure of their initial methodology for finding a solution. Of these four, only one student attempted to find a new way to solve the problem. The other three students either got the wrong answer or stumbled upon the correct answer and didn't realize it was correct until after he had turned in the solution.

It appears that students are not sure of the reasons behind the steps they take to solve word problems. Several of the students said that the only reason they performed some of the

steps was because their teachers have always told them to. The two students who drew diagrams, despite the fact that the diagram was ineffective, was evidence of this. This was also evident when it came to checking work. Some of the students checked their work by reversing their steps, rather than going back to the original problem, while some students only checked their work because they have always been instructed to.

I believe the results beg for further examination of student's perceptions of how word problems are solved. While it is important for students to develop a methodology for solving word problems, it is more important that students understand why certain steps are taken and any options they have for working problems in different ways. Students should also learn to check if their answers are reasonable. Students would be better problem solvers if they could learn how to be flexible in arriving at solutions.

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The Effects of Writing to Learn on Student's Test Scores

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Introduction

Educators have been studying how to change the focus of mathematics instruction from the traditional memorization of theorems and formulas to an understanding of why we use the theorems and formulas. Content Area Writing or Writing to Learn is a method that helps teachers make the transition. The main focus of writing to learn is to help the students grasp a better understanding of mathematical concepts. A widely accepted form of content writing is journal writing. In their journals, the students are able to express any concerns they are having in class. The journal entries have shown to be beneficial to the teachers as well as the students (Miller, 1992). Much of the research focuses on the changes in attitude of the students and teachers towards mathematics. The purpose of this study is to see if the use of journals throughout a chapter affects the students' scores on the chapter test.

Review of Literature

Miller and David England (1989) conducted a study in a large metropolitan high school. They used three math classes in this high school. They developed four general categories of prompts for the teachers to use and study the response each prompt received. The categories were contextual, instructional, reflective, and miscellaneous. A contextual prompt was used when a teacher wants to discover how the students think or feel about something. An example would be "Tell me what is the most interesting topic we have discussed and why?" If the teacher wanted the students to write about the objectives of the day's lesson, then she gave the class an

instructional prompt. For instance a teacher might use "What was the goal of today's lesson?" Most teachers ended up using reflective responses. In these responses, the students reflected about the material they were covering. These prompts helped the teachers to see whether or not the students understood the material they were covering. Any question that involved the students using the material being taught would be a reflective prompt. Finally, when the prompt did not fit in any of the preceding categories, it was thrown into the miscellaneous category. Teachers used miscellaneous prompts when they want the students to have fun or to write anything they desire. An example would be "What is your favourite single digit number and why is it your favourite?"(Miller, 1990). From the students' responses, they learned a majority of the students taking Algebra are taking it because it is required, the students can quote rules and theorems but do not know how to apply them (Miller & England, 1989).

Also, the study showed that when the teacher gave the writing assignment influenced the students. By having the students write at the beginning of class, the students could "make the transitions from their previous class and/or activity to algebra class"(Miller & England, 1989). The students were able to clear their mind from other distractions and classes as well as begin a useful activity. If the teacher had the students write at the end of class, the students had a chance to summarize what they learned in class that day. By giving the students a chance to summarize, the students were able to separate what they understand and do not understand. So, when they did their homework, they knew on which material to focus. Depending on what the teacher wanted to accomplish with the writing assignment, she could decide on when and about what to have the class write.

Christine Evans (1984) is a fifth grade teacher, who decided to conduct active research study in her own classroom. In her study, she supplemented a unit on geometry with writing. She used a pre-test and a post-test to compare the knowledge of the students. She compared her class with another fifth grade teacher's class. Even though the other class did better earlier in the year than Evans class, she was still optimistic. Her class improved statistically greater than the other class, which did not use writing in their unit. Evans also realized that by doing research in her own classroom she improved her attitude about teaching. The students' attitudes improved also because they felt like they were a part of an experiment.

David Clark, Andrew Waywood, and Max Stephens (1993) conducted a study in a Catholic secondary girls' school in Melbourne, Australia. They administered questionnaires to

every student and took a sample of 150 students. A random sample of 25 students were taken at each grade level (Years 7 –12). The surveys showed that even though the school tried to make the journal writing an integral part of the curriculum, many students and teachers did not put in the time and effort the school had desired. The research also showed that the students associated purpose of the journals with the outcome of their completion. Also, by clustering the responses of the survey the researchers found that "student perceptions of their journal use are an indication of actual mode use"(Clarke & Waywood & Stephens, 1993). Finally, the research showed that the journal writing developed the link between communication skills and mathematical thinking.

Methodology

In this study, four algebra classes taught by the same teacher from a large public high school in the Winston-Salem City Forsyth County School District were examined. The treatment consisted of four prompts in which the students would have five minutes to respond. The teacher distributed the prompts at the beginning of class. The prompts covered material that was presented the previous day. All four of the prompts dealt with material covered in one chapter, system of linear equations. They were not given out over four consecutive days, but rather given sporadically throughout the chapter. The four prompts are listed below:

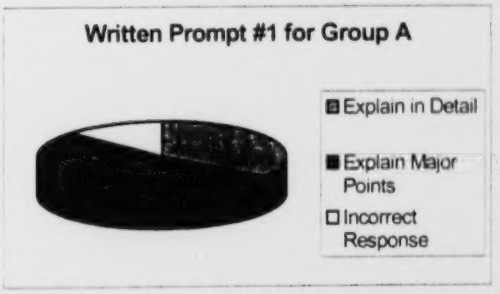
1. *How would you explain in words how to solve the following system of equations using elimination?*
   $4x - 6y = 12$ *and* $x - 7y = 14$
2. *Explain in words how to solve a system of equations using Cramer's Rule?*
3. *What kinds of questions can be answered using linear programming? Pick one use and explain why linear programming is useful?*
4. *Knowing how to solve a system of 2 equations and 3 equations how would you solve a system of 4 equations with 4 variables?*

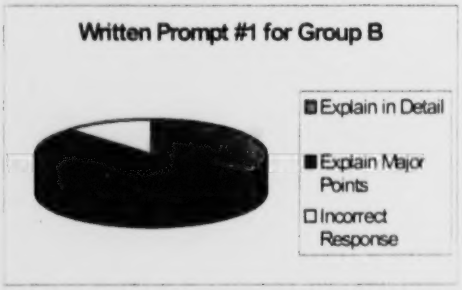
On the chapter test of all four classes, an extra question was asked of the students, which was similar to the prompts given to half of the classes. The students had to explain why Cramer's Rule would not work if a system of equations were dependent or inconsistent. The students' responses to the classroom prompts were analyzed quantitatively according to pre-set categories. The students' test scores were analyzed statistically by using an independent t-test.

Results and Conclusions

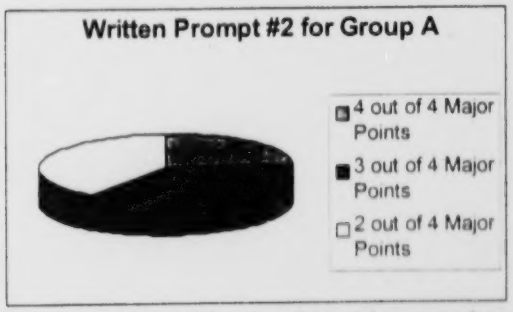
The two experimental classes were divided into two groups, Group A and Group B, for analysis. The responses were divided into different categories depending on the information the student gave. The results were as follows:

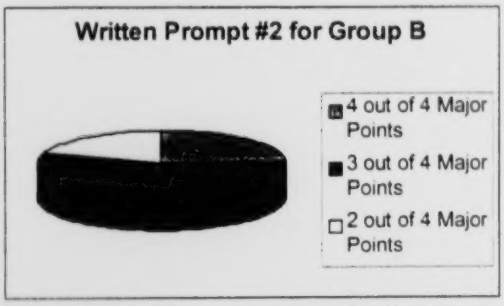
Prompt #1: How would you explain in words how to solve the following system of equations using elimination? $4x - 6y = 12$ and $x - 7y = 14$



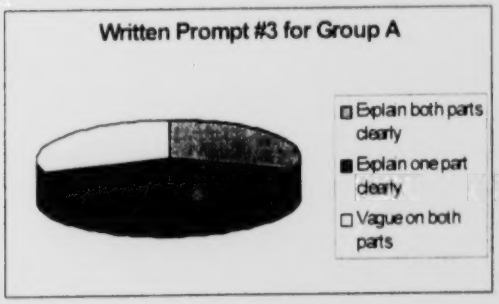


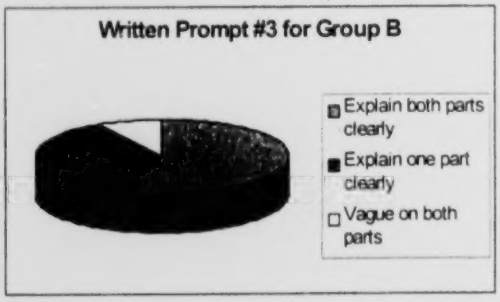
Prompt #2: Explain in words how to solve a system of equations using Cramer's Rule?





Prompt #3: What kinds of questions can be answered using linear programming? Pick one use and explain why linear programming is useful?





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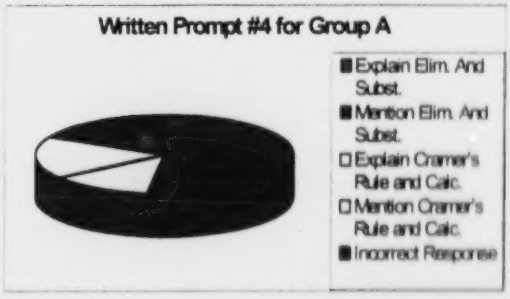
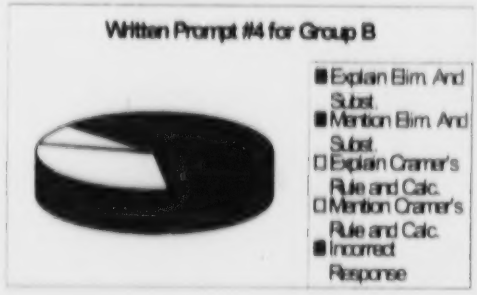
Prompt #4: Knowing how to solve a system of 2 equations and 3 equations how would you solve a system of 4 equations with 4 variables?


Written Prompt #4 for Group A
Explain Elim. And Subst.
Mention Elim. And Subst.
Explain Cramer's Rule and Calc.
Mention Cramer's Rule and Calc.
Incorrect Response


Written Prompt #4 for Group B
Explain Elim. And Subst.
Mention Elim. And Subst.
Explain Cramer's Rule and Calc.
Mention Cramer's Rule and Calc.
Incorrect Response

The scores for Classes 1 and 3 and Classes 2 and 4 were combined. Then an independent t-test was performed to test the hypothesis. The null hypothesis is that there is not difference between the means of the test scores of the two populations. The populations are classes that used writing prompts in their instruction and classes that did not use writing prompts. An alpha level of 0.05 was used for the statistical test. The effect of writing in the math class was statistically significant with a t-score of 1.999 with 66.1 degrees of freedom and a p-value of 0.050.

There was a statistically significant difference between the test scores of the students who were taught the chapter with the addition of writing prompts and those students who did not have the writing prompts inserted into their instruction. So, it has been shown that not only does writing in math classes improve the attitudes of the students as shown in previous research, but it can also improve their performance on objective test scores.

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Ocean Knowledge and Attitudes of North Carolina High School Students: Do Coastal Students Know More?

by

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INTRODUCTION

This study begins with a brief historical review of marine education, the formal and informal exploration of society's impact on the Sea. Then, the present state of marine science is analyzed by looking at ocean knowledge and attitudes of North Carolina high school students.

LITERATURE REVIEW

Human populations are concentrated near our coasts. Greater than half of our total population lives within one hour's drive of coastal shores (Fortner and Teates, 1980). Unfortunately, water, once thought to be an inexhaustible resource, has limitations. An example is our severely depleted fish populations. Fish stocks were depleted so quickly and completely that the Cod population off of Cape Cod couldn't replenish itself. Fisherman could no longer catch enough fish to survive and many coastal communities suffered.

Residents of these communities and those around them, have an active voice in restricting fishing and other laws. As U.S. citizens, this voice needs to be informed and educated through our public schools.

Historically, Marine education evolved over the late 1950's and into the 1990's. Between 1958 and 1970, most marine education courses were offered only in higher education, particularly graduate programs (Schweitzer, 1973). The outcome of the environmental

movement of the early 1970's was increased numbers of marine education graduate programs (Fortner & Mayer, 1989), while Kindergarten-12 marine education courses were mostly teacher-driven units or summer courses (Fortner & Teates, 1980).

"The Year of the Coast" was the designated slogan of 1980 (Lanier, 1980) and marine education was the topic of the year and thoroughly funded. Only 51% of secondary schools in 1987 taught a marine-related curriculum (Disinger in Hounshell and Madrazo, 1990). Like previous years though, most of this marine education was teacher initiated rather than part of a school-wide program.

Student marine knowledge during the middle 1970's -1990 was alarmingly low. All mean scores were less than 50% correct (Fortner & Teates, 1980 and Fortner & Mayer, 1991). In conjunction with knowledge, student attitudes toward the oceans were measured. One particular trend identified was students with the highest knowledge scores tended had more positive attitudes (Fortner & Teates, 1980).

The purpose of this study is both to assess and determine the ocean knowledge and attitudes of North Carolina inland and coastal high school students, and to identify key issues that may relate to higher ocean knowledge and attitude scores. The following null hypothesis will be tested to answer these questions: There is no significant difference between coastal and inland students' knowledge and attitudes toward the ocean.

METHODS

Subjects. The North Carolina High School science students surveyed met the following criteria: 1) Junior or Senior level standing, 2) already had a biology course in high school, and 3) presently taking an advanced science course. Students, parents, teachers, and administrators were invited to participate with a consent form. Once the form was signed, the participants took the North Carolina Ocean Knowledge and Attitudes (NCOA) survey during 15 minutes of their science class. Consent forms and completed surveys were then sent to the author for scoring and analysis.

Survey. All 25 NCOA questions tested the students' knowledge in marine science. Students' attitudes were measured with a five point Likert scale and self-reported whether they had specific experiences. Lastly students ranked ten activities or experiences they thought were helpful in learning about the ocean.

Marine researchers, science educators, and the Institutional Review Board reviewed the survey. Comments on content validity were made and the surveys were then revised, pilot tested, and distributed.

RESULTS

Subjects. All participants met the criteria outlined in the methods section. A total of five schools, 15 classes, and 268 students participated in the NCOA survey. Of these 131 students were from Carteret, 118 were from Winston-Salem/Forsyth, and 29 were from Surry County. Demographically, 68% of the students were female, 32% were male, 92% were white and 8% of the students were non-white. Students from the coast lived an average of one to ten miles from shore the Atlantic Ocean. The inland students lived more than 50 miles from the coast. Over the past year, coastal students reported visiting the coast more than 20 times, whereas, inland students reported visiting the coast an average of one to five times during the past year.

Survey. A KR 20 test of validity on this NCOA knowledge section was $r = 0.73$ ($N = 268$). The mean knowledge score for the entire population was 15.0 ($SD = 4.4$) or 60% of the responses were correct. Coastal students' scores ($M = 15.4$, $SD = 3.93$) did not significantly differ from inland students' ($M = 14.7$, $SD = 4.94$), $t\ (258) = 1.23$, $p = 0.11$.

Knowledge scores of females and males did significantly differ. Coastal males scored the highest mean score of 17.1 ($SD = 3.79$) or 68% correct, which was significantly higher than coastal females ($M = 14.9$, $SD = 3.46$ or 60% correct), $t\ (84) = -3.10$, $p = 0.001$. Of the total population, there was a significant difference between the two means of 14.8 ($SD = 4.71$) or 59% correct for all females and 16.1 ($SD = 4.79$) or 64% correct for all males ($t\ (144) = -2.12$, $p = 0.02$). An ANOVA analysis found the effect of gender on these knowledge scores was significant ($F(1, 252) = 4.89$, $p = 0.03$), and the effect of location was not significant ($F(1, 252) = 3.47$, $MSE = 19.15$, $p = 0.06$).

Of the nine attitudes, coastal students were significantly more positive about the ocean as beautiful, fun, familiar, and valuable than inland students were. There was also a significant relationship between coastal students' knowledge score and the fifth (important vs. unimportant), and sixth (awful vs. nice) attitude, $F\ (4, 125) = 7.72$, $MSE = 12.83$, $p < 0.001$. What inland students' reported on the third (complex vs. simple) and the ninth (worthless vs. valuable) attitude category significantly related to their knowledge scores, $F\ (2, 130) = 16.40$, $MSE = 19.36$, $p < 0.001$.

Both coastal and inland students' attitude toward the second (fun vs. boring) attitude consistently related significantly to their number of experiences, F (4, 125) = 14.80, MSE = 2.26, $p < 0.001$; F (2, 130) = 6.91, MSE = 3.24, $p < 0.001$ respectively. There was a significant correlation between all students' knowledge scores with the number of experiences they have had ($r = 0.359$, $p < 0.05$, $N = 256$). In addition, over 84% of the students expressed a desire to learn more about the ocean, and 28% of students ranked field trips as their primary method to learn more about the ocean.

Discussion

The overall mean ocean knowledge score of 15.0 or 60% correct, while low, is still a 10% increase over past research scores. The highest percent correct previously recorded was 50%(Fortner & Mayer, 1991). Relatively, the higher scores are still low but encouraging.

There were no statistical differences between the coastal and inland high school students' NCOA knowledge scores. There was however, a significant difference between females' and males' ocean knowledge scores. Males firmly outscored females on the knowledge portion of the NCOA survey with a total percent correct of 64% to females 59%. Similarly, researchers (Fortner and Teates,1980; Fortner and Mayer,1991) observed the highest scores amongst coastal males.

The observed gender gap in this and other studies may be a problem common to marine and other high school sciences. Seymour (1995) found that the males' and females' performance in science is the same until the ninth grade, after which, female students' science scores slip. The disparity may be due to females' lack of participation in whole-class discussions and actively involvement in hands-on, science lab activities (Seymour, 1995). The enigma though, is that more females are taking science classes in this study, but their scores are still substantially lower.

One possible reason for this paradox is that males had a significantly higher number of ocean-related experiences than females. Since ocean knowledge scores correlated with the number of experiences, it is possible that an individual's experiences directly relate to their knowledge. This concept is supported by constructivist theory that suggests meaningful previous experiences influence a student's knowledge and attitudes (Robertson, 1994). To be effective, the quality along with the quantity of the experiences is equally important.

Of the nine attitudes, coastal students were significantly more positive about the ocean as beautiful, fun, familiar, and valuable than inland students. What is most telling is the

relationship between knowledge and the fifth (important vs. unimportant) and ninth (worthless vs. valuable) attitude. Students' attitude toward the ocean as fun or boring related to their number of ocean-related experiences. Since most ocean-related activities had to be informally motivated, the more positive a student is, the more motivated to learn they are. The students' perception of the experience should thus be considered.

Marine science needs to be taught in schools and with a new and more effective approach. One way, as the students' suggested, is with field trips or hands-on learning experiences. Students need to get their hands wet when they are learning about the ocean. To decrease the gender gap in marine science, researchers suggest having small cooperative group activities to stimulate conversation (Seymour, 1995). Teachers can identify relevant experiences all students in their classrooms before they start teaching.

As future citizens, our children, need to learn more about 75% of our Earth. They need to learn not only for the sake of science learning, but for the protection of our two most precious resources – the sea and our children's future. As one student said, "The awareness of our oceanic system must grow. People need to know what is going on around their own world. Thank you for doing your best to preserve our oceans".

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Error Correction in the Foreign Language Classroom

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Introduction

Methods of oral error correction have caused considerable consternation among language teachers. All students of language do need some kind of feedback in order to judge their progress and efficacy, but the amount and kind of feedback remains unknown according to the research. Especially at the secondary level, the kind of feedback a student receives can greatly influence his/her future relationship with foreign language learning. At this stage, the majority of students receive their first exposure to a second language, but the conditions under which this first step takes place are often less than optimal. The class size is frequently very large and students receive only very limited opportunities to create language on their own. These facts mean that the individual feedback an instructor has time to give to a student's utterance weighs heavily. For this reason, this researcher wanted to document the status of oral error correction by experienced high school teachers. Specifically, the study investigated the overall amount of error correction in two secondary classrooms, documenting what methods are most commonly used and with what frequency.

Literature Review

The argument for and against the kind and amount of error correction in oral communication in foreign language classes has turned in circles since the 50's and 60's. At that time, the United States was hooked on the Audio-Lingual method which viewed oral mistakes as completely unacceptable in any context (Mings, 1993). Short, sharp, direct correction was administered in such cases, as the Audio-Lingual method viewed direct, explicit and immediate correction as necessary for flawless repetition of stock phrases.

The next decades revealed the disappointing proficiency of foreign language students trained this way, and along with Chomsky's idea of Universal Grammar, Krashen's Monitor Theory and the burgeoning Communicative Approach, explicit error correction lost its favor (Mings, 1993). All of these new theories replaced quick and direct correction methods with a focus on creative creation of language by the student. Both Chomsky and Krashen took into account the way children *acquire* their native language. They do not learn rules and suffer constant correction, rather they are surrounded with language input and use this input to begin their own experimentation and creation in the language. Even though students in a high school class do *learn* grammar rules, an open environment free of the strict error avoidance rule might help students begin to communicate faster. As was mentioned, the majority of students receive their first exposure to a foreign language in high school, and it is there more than any other place that such an "error accepting" environment could be established for the most benefit.

This wealth of new theory concentrating on errors seemed to spark more interest and study -- should we still even correct errors? if so, how? to what benefit? Only a handful of studies have appeared concerning the secondary and college levels, but those that have produced some rather interesting and contrasting results. Three experimental studies conducted within the last five years have tentatively proved that explicit error correction does still hold a place in the foreign language classroom, whether in attitude or actual practice. An experimental study of high school students in Holland who studied French as a second language proved that intrinsically less-motivated students and low anxiety students greatly benefited from direct, constant error correction. Other students showed gains as well, but not as notable (Dekeyser, 1993). An action research project by a Spanish teacher in Florida used direct peer monitoring and correction to great advantage in the college setting, and a separate teacher-student survey at the University of Arizona found that students actually did favor focus on form and direct correction (Fleak, 1993 Schulz, 1996).

Three studies, though, is not sufficient, and it is obvious that the secondary teacher needs more research that deals directly with oral error correction methods for their level. Theory and suggestions abound, all of which neglect to study which methods have worked in real secondary classrooms or even which methods high school teachers actually employ with students on a day to day basis. Discovering what teachers actually do in the classroom is a fundamental problem that needs to be addressed before the effectiveness of any one method can be researched.

Methodology

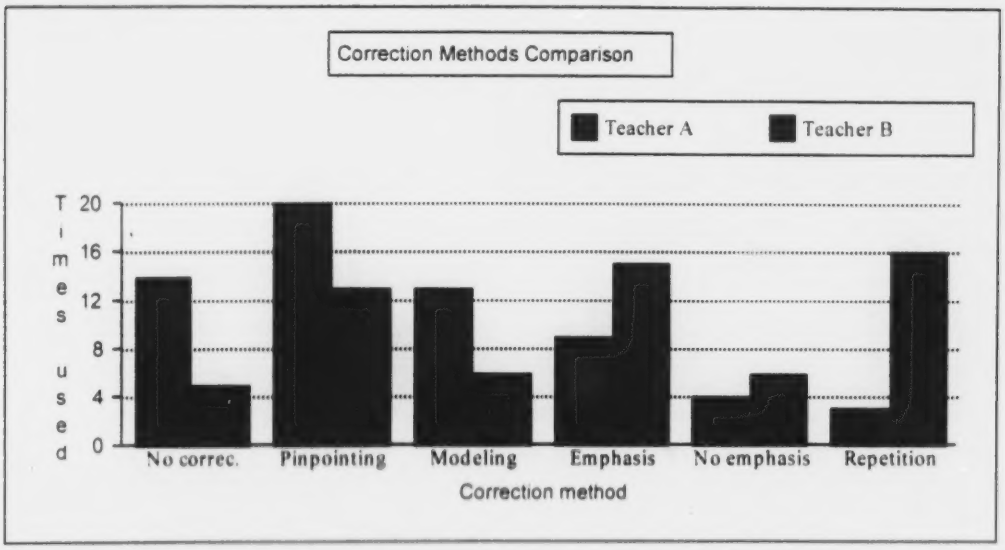
In order to examine spoken error correction methods in common foreign language classrooms, two Spanish teachers from two different public high schools were observed, each one during six 48 minute class periods. These teachers, one male and one female, had already been observed by the researcher who found their classes exhibited large amounts of student interaction, as well as teacher/student interaction. The classes spanned three levels, Spanish I, II and IV, and the sizes ranged from 20 to 32 students between the ages of 15 and 18 of mixed race and gender. The researcher observed each instructor on a weekly basis over a month's time. The number of students for each class period observed did vary, due to absences and students who dropped the course, but the amount of student interaction and spoken Spanish by the students remained high throughout the observation period.

In order to quantify the observations of error correction methods, the researcher devised a check sheet divided into six sections, with each section corresponding to a method outlined by Hadley on page 286 of her book Teaching Language in Context (1993). As the literature review explains, the five methods that Hadley describes (pinpointing, modeling, direct correction, direct correction with emphasis and repetition of the question) have been the most widely suggested and theoretically popular of all the correction methods over the last 25 years.

Results and Conclusions

Error Correction Totals by Method and Instructor

Correction Method	Teacher A	Teacher B	Totals
No correction	14 (22%)	5 (8%)	19 (15%)
Pinpointing	20 (32%)	13 (21%)	33 (28%)
Modeling	13 (21%)	6 (10%)	19 (15%)
Correction with emphasis	9 (14%)	15 (25%)	24 (19%)
Correction with NO emphasis	4 (6%)	6 (10%)	10 (8%)
Repetition of initial question	3 (5%)	16 (26%)	19 (15%)
Correction Totals	**63** (100%)	**61** (100%)	**124** (100%)



By the end of the observation period, the researcher detected nearly the same total number of errors, corrected and uncorrected, for both teachers. This indicates that the differences in class size, level and student make-up did not have a significant effect on the total number of errors that the students committed. Concerning error correction, the chart shows that all the methods were used to some significant degree by both teachers. Neither teacher overly favored one method nor omitted another during the observation period. Teacher B favored simple repetition of the question (26% of all corrections), correction with emphasis (25%) and pinpointing (21%) above the other methods. The remaining three method were used only 10% or less of the time. Teacher A chose pinpointing (32% of all corrections), modeling (21%) and the choice to withhold correction (22%) as the three most frequently used techniques.

Even as these differences exist between the teachers' individual usages, the totals of their correction numbers show a fairly equal distribution among all the methods. There is never more than 4 percentage points difference between them, except for the most and least used methods. Pinpointing was the most frequently used method overall, used 28% of the time and 9% more often than the next most preferred method. The least preferred method was correction with no emphasis, which was used only 8% of the time overall.

Both teachers used a variety of techniques to give their students feedback. It seems that each teacher picked three different methods to use for the majority of their oral correction. The differing goals of the oral activities dictated the method(s) the instructors chose to use. For example, Teacher A's classes often had periods where longer, more creative responses were

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expected of students. During these times, errors were corrected much less frequently than during more form-specific exercises. Because these "creative periods" were interspersed with some discrete grammar-oriented oral exercises, the teacher used some direct methods as well, such as correction with emphasis, which was used for 14% of the errors.

In contrast, Teacher B led a more structured classroom, demonstrated by a low percentage of uncorrected errors. The oral practice focused mainly on form-oriented activities, and the teacher therefore corrected more often, and used more direct methods. Since the classes were not 100% form-oriented, indirect methods of correction appeared in to teacher B's presentation as well. Even though both teachers used seemingly opposite methods, it is important to note that the indirect method of pinpointing was one of the top two techniques in both teachers' classrooms, signaling a tendency away from using direct correction methods all the time.

In light of the present data, this researcher supports a multi-faceted approach to error correction in order to cope with the many demands of the high school environment. Both teachers, even though they believed in and created very different oral practice environments, used a variety of approaches for their students. Indirect methods, though, might be among the best for high school students, as their high percentage of usage shows. As was mentioned, the high school language class can be daunting for students. Large class sizes mean that teachers do not have the time to provide much individual support, and beginning students are often afraid of speaking in front of their peers. The indirect methods of correction, pinpointing, modeling answers and repeating questions, stigmatize beginning students less, create an open environment for language creation and bolster motivation for continued language learning.

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The Effect of Database Use on Secondary Achievement and Attitude

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Introduction

This study examined the effects of computer database use on secondary student achievement and attitude. This information is beneficial to students, teachers, and school administrators. The implementation of computer technology into the secondary classroom is a major challenge facing education. There is little agreement on the role computers should play in the classroom, which has hindered the integration of computers into classroom instruction. The use of databases is important because they are cost effective and accessible on most of the computers that are being introduced into the classroom.

Literature Review

In 1996, Tom Loveless concluded that computer advocates must separate their agenda from other reform agendas. He stressed three essential elements in the campaign to promote computer technology in the schools: (a) developing a strong technological infrastructure through investments in adequate school facilities, strategic planning, and trained personnel: (b) using computers to make teachers' current work easier and more efficient; and (c) employing computers to increase student academic achievement, not for changing current ideas of valued knowledge. Loveless links the success of computers in the classroom to efforts to make teachers' jobs easier and students more productive.

A common problem addressed in the literature is that teachers are not properly trained to integrate computers into the classroom. Teacher training should aim at helping teachers to integrate the computer into their regular educational activities in various subject matters. If teachers only use computers sporadically then students will not have enough computer experience to discover what computers can offer them ('Yaghi, 1996). It is, however, important

to provide valuable lessons that implement computer technology and use computers responsibly. Betsy Wager (1996) devised a set of rules to compute by: beware of flash, use computers only where they make sense, train teachers, and don't expect miracles. She quotes San Francisco teacher Dennis Frezzo, "We can't just put students in front of computers and say, 'OK, learn.' " The failure of many school systems to follow these rules is resulting in the misuse of valuable computer technology.

In his 1996 study of school administrators, computer teachers, and subject matter teachers, 'Yaghi found that the two most serious problems perceived by this group of educators was a lack of qualified teachers and lack of effective educational software. This research confirms the frustration that many teachers feel when attempting to integrate computers into their curriculum. There is an abundance of educational software but much of it is not effective. In order for teachers to embrace new technology and successfully implement computers, they must possess the tools to succeed, such as effective computer programs.

Computers have many different capabilities and applications in the classroom. It is difficult to know how to take advantage of these capabilities to result in a better learning environment. Many teachers do not have access to effective computer software. In order to use computers effectively they must have the proper equipment, good training, and computer programs that are applicable to their subject matter.

John E. Silvius (1993) concluded that a valuable feature of computers are their capacity to expedite large tasks, especially those in which large quantities of data must be stored analyzed and retrieved. When such time consuming tasks are assigned to the computer, students and teachers have more time to engage in personal interactions and additional learning experiences. Computer databases offer a time saving and efficient means of handling large amounts of information. Silvius found that in the secondary biology laboratory, plant and animal specimen collections can become much more useful and accessible when coupled with a computer database. Students appreciated the opportunity to learn to use a data base file manager in a very practical way, to see how it saves time in routine tasks by providing quick access to individual specimens or groups of specimens.

Lee Benjamin (1993) found similar success with the use of a database to teach meteorology. Benjamin had been frustrated in his attempts to provide real-life weather data for his students. He discovered the Accu-Weather database, an interactive, real-time, worldwide

database that is used by professional meteorologists. Benjamin found the educational experience for his students that he had been looking for. His students were doing real science and immersed themselves in the scientific process. The use of this database resulted in Benjamin's students being enthusiastic about their work. Benjamin concludes that The Accu-Weather database made a huge difference in the quality of education for his students. He states, "Just prior to discovering the Accu-Weather program, I was contemplating leaving the teaching profession. Seeing the enthusiasm generated when science is taught using real, meaningful data and appropriate technology not only changed my mind about retiring, but I am currently pursuing a doctorate degree in educational technology. Teaching is fun again!" Lee Benjamin's experience is an example of the impact computers have on teachers and students when implemented properly.

School districts, including Winston-Salem/Forsyth County, are increasingly bringing computers into the classroom. Most computers are equipped with a word processor, spreadsheet and database (Guild and Bloom, 1997). The database, as the research shows, is an important feature on the computer, especially in the science classroom. Databases are accessible, applicable to different subject matters, and easy to implement with proper training. The research shows that the use of databases results in a positive computer experience for teachers and students. There is, however, little research on the effect of databases on student achievement. I will, therefore, examine the effect of database use on the academic achievement of secondary anatomy & physiology students, as well as their attitudes toward the use of databases. The study will operate based on the null hypothesis that computer database use does not have a significant effect on secondary student achievement or attitude.

Methodology

***Subjects*:** There were 145 participants in the achievement portion of the study and 128 participants in the attitude portion of the study. The participants were both males and females and ranged in age from 14 to 18. The students were members of regular Anatomy & Physiology classes at Mt.Tabor High School. These classes were chosen due to computer accessibility. Students were given consent forms. Students with permission to participate in the study were assigned a number for identification.

***Procedure*:** Three classes, the experimental group, were taught a lesson on diseases and disorders of the nervous system with the use of a computer database. The database was

constructed for the purpose of this study. It is an index of diseases and disorders chronicled according to nine major symptoms- Dizziness, Fever, Headache, Mental Changes, Muscle Weakness, Numbness, Paralysis, Tingling and Tremor. Students were given a worksheet containing case histories and answered questions using the database. There were two students per each computer.

Three more classes, the control group, were taught the same lesson, diseases and disorders of the nervous system, using traditional instruction methods, which consisted of a lecture and a worksheet. Both lessons were part of the normal Anatomy & Physiology curriculum and objectives. One classroom teacher taught two of his classes using the database and one of his classes using traditional methods. The other classroom teacher taught two of his classes using traditional methods and one of his classes using the database. This accounts for variability between the teachers. Students in the experimental and control groups were given a pretest and posttest to measure achievement on the material covered. They were given ten minutes to complete the achievement test. This test was an objective quiz that is part of the classroom teachers' normal testing bank. A Kuder-Richardson formula, KR-21, was applied to this quiz in order to determine reliability. Validity was established by matching quiz items to the material presented. Pre and post-lesson attitudinal questionnaires were also administered. These questionnaires were constructed for the purpose of this study and used a semantic differential. Validity was established through peer review.

Analysis: The pre and post-objective quiz were expressed as raw scores and analyzed by ANCOVA. The answers to the semantic differential questionnaires were also expressed as raw scores and analyzed by ANCOVA. A statistical analysis was run for all data sets to determine their the minimum, maximum, mean, and standard deviation.

Results and Conclusions

Achievement: For posttest achievement score, while controlling for pretest achievement score, the main effect of group was not significant, F (1, 145) = 0.210, MSE = 7.639. The average pretest and posttest achievement scores for each group were very close. Mean (with standard deviations in parentheses) for the control group pretest, control group posttest, experimental pretest, and experimental posttest were 4.739 (2.105), 10.261 (2.774), 4.868(2.660), and 10.513 (2.937), respectively. The achievement test was found to be valid based on comparison of the test questions and material. Application of the KR-21 reliability formula resulted in reliability

values of 0.29 and 0.62 for the control group pretest and posttest, and 0.57 and 0.68 for the experimental group pretest and posttest. These values represent a lack of high reliability in these results. The implication is that there might be a significant difference in the level of achievement that was not accurately measured by the achievement instrument. Further studies are warranted to determine what, if any, effect computer database use has on student achievement.

Attitude: For posttest attitude score, while controlling for pretest attitude score, the main effect of group was significant, $F(1, 128) = 8.11$, $MSE = 92.641$. Mean (with standard deviation in parentheses) for the control group pretest, control group posttest, experimental group pretest, and experimental group posttest were 2.27 (12.60), 8.19 (8.69), 12.33 (9.50), and 16.23 (11.16). The attitudinal survey was found to be valid based on peer evaluation of the instrument. This information is valuable to educators and students because over a period of time better student attitudes may foster a more ideal learning environment and increase student achievement. Further studies are warranted to determine the relationship between student attitude and achievement as they are effected by database use.

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Adding Relevance to Poetic Concepts Through Modern Song Lyrics

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Introduction and Brief Review of Literature:

Few people are sufficiently excited by poetry in high school to grow to appreciate it and to read it regularly as an adult. This is a growing problem as students' attention spans shrink from the quick-paced media entertainment they ingest on a daily basis. Appreciation of poetry takes a contemplative, open mind. How can English teachers make students connect with this genre?

Willis (1997) relates negative reactions in the classroom: "I often get groans, sighs, or other signs of dislike. It's too hard, they say- too boring. They don't understand it." Willis tries to accommodate for his students lack of interest in poetry by letting them write opinion papers and by having discussions poems' ethical content. While this might create some interest, more is needed to truly engage students in the workings of poetry.

What makes teaching poetry especially difficult is that often teachers are often first expected to teach students the terminology applied to elements of poetry first. This does seem tedious: yet another list of terms. However, students do need to learn some sort of universal language in order to be able to discuss poetry. The trouble for those ninth graders comes when their first serious effort at studying poetry is mired in literary terminology. Teachers do need to introduce poetic devices, such as metaphors, alliteration, and end rhyme. Unfortunately, these terms mean little to students unless they can be made relevant to their real lives.

Milner and Milner (1993) state, "Music is a powerful learning tool for poetry, rock and rap music especially with the young." I agree that the best method of establishing relevance with poetry from the outset is through rock and rap lyrics. I will attempt to test this thesis in my study. The establishment of relevance is an essential to teaching any sort of literature, regardless of the genre. Therefore, teachers should be wary of dismissing icons of popular culture which they may fail to appreciate due to generational biases. Teachers do not have to enjoy Smashing Pumpkins, or Fiona Apple, or Goodie Mob, but I think they should be able to present them, or someone of similar currency, in an informed and unbiased manner.

Teachers need to avoid drifting toward an ignorance of popular culture such as that of Allan Bloom in his The Closing of the American Mind. (1987) Bloom dismisses popular music as base and worthless: "a barbaric appeal to sexual desire-- not love, not eros, but sexual desire, underdeveloped and untutored." (73) Bloom had obviously not researched popular music thoroughly. Menocal (1988) and others share my contempt for this supposition: "Rock is poetry that is aggressively and self-consciously a part of the living tradition that... plays a fundamental and vital cultural role for many people." (56) Menocal also argues that rock lyrics can give students insight into the aesthetic value of other poetry. Luebke (1995) also disagrees with Bloom's claim, citing lyrics from Crash Test Dummies, Living Colour, and even Ozzy Osbourne as being useful to accompany traditional poetry for high school students. As Luebke states, "Popular music can be a valuable resource in introducing students to poetry: lyricists use many of the same conventions poets have used for centuries." (6)

Anderson (1993) presents a thorough argument for using rap music in the classroom. He points out that while teachers might be wary of many popular rap songs' references to drugs, violence, or sex, the artists are often mistaken for glorifying these things. On the contrary, as Anderson puts it, "Rap is used to comment benignly on the human condition." (1) Teachers need to bear in mind when utilizing rap *or* rock lyrics in the classroom.

Teachers must begin to recognize the students' world: their music, their icons. Once that is accomplished, and representative selection of said lyrics is chosen, the teacher can truly begin to connect students to the world of poetry. This study will utilize the lyrics of Fiona Apple, Smashing Pumpkins, and Goodie Mob to help students learn the basic devices of poetry, rather than having dry terminology turn them off from the beginning. Using this method, it will be easier for teachers to instill a true appreciation and understanding of all poetry.

Methodology:

The purpose of my study is to prove that the addition of examples of poetic devices in modern song lyrics will strengthen students' understanding of such devices. I hypothesized that the participating teachers, and any other teachers who review my study, would gain a new method of adding relevance to what students might otherwise see as literary terminology. In addition, poetry in general would become interesting to students who have been shown that artists they know use its basic concepts.

My subjects were all students in four ninth grade English classes at a local high school. Their teachers expressed a desire to cooperate with the study. Although the study was experimental, it neither asked the teachers to interfere with nor depart from the standard curriculum. In addition, the control group received the extra instruction after my formal study was complete. Data was collected from completed pre and post tests administered by the teachers.

In two of four classes, teachers incorporated a song lyrics unit into their usual poetry unit. The students were exposed to the usual classic poetry contained in the standard curriculum to learn the concepts, but lyrics to popular songs containing corresponding examples were also introduced. I hypothesized that students would understand the concepts more quickly through this medium because it is so accessible to them.

The pre and post-tests were both of my construction, and are based on the types of items students will be tested on in their state end-of-course test. Each test, using multiple choice questions, should objectively measure for comprehension of poetic devices. To avoid effects from the pre test, the questions on the post test were both rearranged and reversed. A significant difference between the mean improvements of the experimental and control groups would show that the addition of the lyrics do have a positive effect on students' learning of poetic devices. This statistical analysis was conducted through an Ancova test.

Although I avoided visiting these four classes in the interest of non-interference, I also visited another class outside the statistical study in order to observe the effect of the addition of the lyrics in the classroom. All three teachers were given a brief questionnaire after the study was completed to give them a chance to express how they felt about the experiment.

Results and Conclusions:

For the post test, while adjusting for the difference in pre-test scores, the main effect of the song lyrics was significant, $F(1,70) = 4.761$, $MSE = 266.654$, and $p < .05$. There was indeed a difference between the experimental and control groups, and therefore the addition of song lyrics in a poetry unit does have a positive effect on students' learning of poetic devices.

The following table shows the means and standard deviations for the groups:

Table 1

	pre-test			post-test		
Group	M	SD	n	M	SD	n
Experimental	47.58	11.02	31	57.90	18.43	31
Control	49.76	15.69	42	67.62	17.81	42

Table 2 displays an analysis of variance for the groups:

Table 2

Source	df	F	P
Group	1	4.761	0.032
Covariate (pretest)	1	17.007	0.000
error	70		

As stated earlier, I visited a class which was left out of the statistical study, but did receive the treatment. The environment in this class was invigorating. The students were engaged in excited conversation as soon as they understood what was happening. One student excitedly asked, "Can we keep these?" in reference to a sheet of lyrics from *Sleep to Dream* by Fiona Apple. This particular teacher asked the students to search for poetic devices they had briefly already reviewed while they listened to the song. The eyes of all students in the room were glued to their papers, because their ears were glued to the words of an icon to whom they could relate, or at least were curious about.

One student yelled out, "I found a hyperbole! - 'swallow the seas'" Once the song was over and the students had finished finding the poetic devices in the song, a lively and productive discussion ensued. Literally every student in the room raised a hand to contribute to the discussion. Similar situations followed the playing of Smashing Pumpkins' *In the Arms of Sleep*. The teacher asked who the "her" of the song was, and a student finally burst out, "Oh! It's sleep! This whole song is personification!" Goodie Mob's *The Thought Process* elicited giggles over the somewhat strong language, and then amazement at the numerous amount of poetic devices in the jargon-filled lyrics. Many students realized that rap utilizes a great deal of internal rhyme and alliteration.

The response from the teachers upon conclusion of the study was extremely positive as well. The single criticism was the lack of other genres of music such as country, which some students missed. This is a valid point, and with more time a more thorough unit could be developed. More students could relate to the lyrics through the inclusion of a greater variety of music.

All three teachers strongly agreed that the lyrics both helped the students comprehend poetic devices, and made poetry in general more relevant to them. "Just having modern music in the classroom excited the students and discussion increased," remarked one teacher. "The opportunity to listen to the lyrics with the aid of music encouraged many students to pay

attention. Having something more concrete to apply the poetic concepts to made a difference," a second teacher replied. With my encouragement to present the lyrics just as any other poem, it appears the teachers concealed whatever biases they might have had. They all reported being very comfortable and pleased by the students' positive reactions.

More significant, even than the statistics, is the news from all three teachers that a majority of students expressed the desire to find more lyrics on their own to bring in for the class to analyze as poetry. This shows that adding relevance to literature- whether poetry, drama, or a novel- not only increases understanding, but encourages students to become active readers. Creating active readers is one of the most difficult, yet most important, jobs of being an English teacher.

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Political Efficacy: Factors Contributing to Civic Confidence

by

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December, 1997

Introduction

The social studies classroom and the school environment have the vast opportunity and substantial responsibility to develop reflective, competent, and concerned citizens. Civic confidence or political efficacy is the basis upon which students are empowered to develop and manifest their civic responsibility. Such confidence must be developed in an emphatic and lasting manner so that such civic responsibility will be carried into the community. Three aspects of citizenship education emerge as critical in the development of strong democratic ideals: knowledge transfer, democratic modeling and opportunities for meaningful civic participation.

Literature Review

The Social Studies must develop reflective, competent and concerned citizens by empowering critical thinking and a willingness to become active participants in our democracy (Martorella, 1996). Strong feelings of political efficacy (belief that one has the power to participate in political events/decisions) empower students to realize their civic responsibility (Zevin, 1983). Citizenship education needs to take place within the formal curriculum, in the policies and rules of the school, and in the students' activities (Martorella, 1996). Effective citizenship education consists of the transfer of political knowledge, a community that models democratic ideals, and the opportunity for active participation in such a system (Parker, 1989). Collaborative rulemaking and student representation increases students' understanding of the democratic process (Ross and Bondy, 1993 and Schimmel, 1997), and direct involvement in the civic process is essential to the development of political efficacy (Morse, 1993).

Methodology

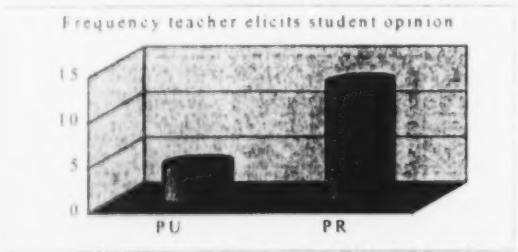
Problem: What effect does civic/government education, through classroom and school-wide modeling and instruction, have on students' feelings of political efficacy?

Subjects: Four secondary social studies classrooms (103 students), in 2 public schools in the Charlotte area (one **U**rban and one **R**ural). Classes are referred to as PU1, PU2, PR1, PR2.

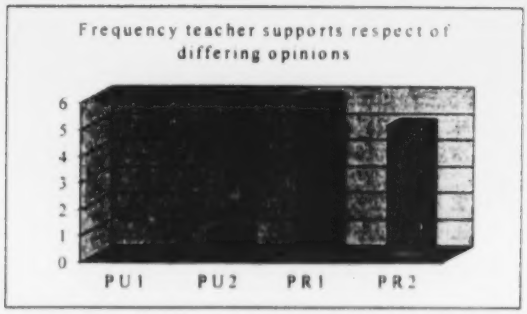
Procedures: Observations took place every other week for a six-week period, and focused on understanding how political efficacy is taught, modeled, and if students are given an opportunity to become active participants in a democratic setting. Specific attention was paid to occurrences of critical discussion between students/teachers, the extent to which student opinion is elicited and respected, and any instances of democratic ideals at work in the classroom. Special attention was also given to the origination and implementation of classroom policies, rules and procedures. A student survey was distributed during the last week of the study, consisting of 25 questions (utilizing a likert scale) measuring political interest/knowledge (questions 1-4), democratic modeling (questions 5-11), opportunities for participation in community activities (questions 12-18), and feelings of political efficacy (questions 19-25). In addition, the survey concluded with 6 open-ended questions measuring civic/community/school participation.

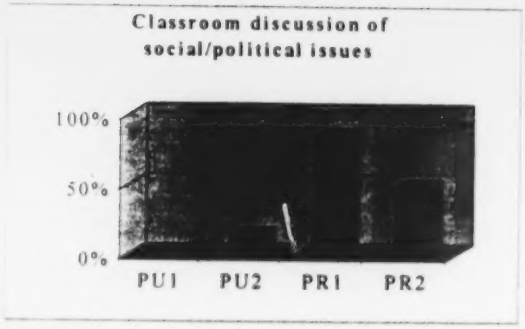
Results and Conclusions

Observation was searching for instances of application of knowledge through critical thinking skills, the modeling of democratic ideals, and the opportunity for active participation. In each of these cases, there was a marked difference in the classrooms of the urban and rural schools. The transfer of knowledge through critical thinking skills was greater in the rural schools, with PR teachers eliciting student opinion and discussion in ratio of 3:1.

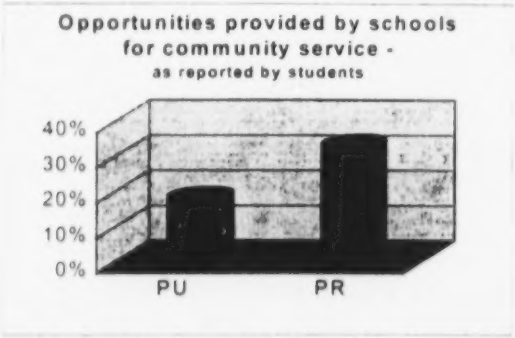


In regard to democratic modeling, no classroom gave students the opportunity to participate in collaborative rulemaking, and each teacher implemented classroom rules without discussion. However, there was a difference in the classroom atmosphere among the urban and rural schools. The presence of an environment that nurtures respect of student opinion is primary to the development of strong civic confidence, and the rural classrooms demonstrated this openness and respect to a far greater degree than the urban classrooms.





. The opportunity for student participation was also greater in the rural classrooms. Based upon the percentage of opportunities teachers utilized to engage students in the discussion of political/social issues, the frequency of discussions in the rural classes was significantly higher than that of the urban schools, with one classroom, PU1, having no discussion at all. Opportunities for community service are a means by which the ideals of civic responsibility are tested and tried. PR's students were provided with more opportunity to participate in service:



Clearly, PR classrooms displayed the conditions for strong political efficacy to a greater degree than that of the PU classrooms. The existence of a strong democratic environment was lacking to some degree, in all four classrooms due to the absence of collaborative rulemaking and a relatively low degree of other democratic ideals such as group decision making, lobbying, and student representation.

The survey measured students' feelings regarding the extent of their political knowledge, the extent to which democratic ideals were modeled within the school, the extent to which they meaningfully participated in the school/classroom environment, and the level of their political confidence. Based upon observation data, PR students should be more confident in their knowledge of the political process and, in fact, PR classes did display greater confidence when asked to respond to the following statement:

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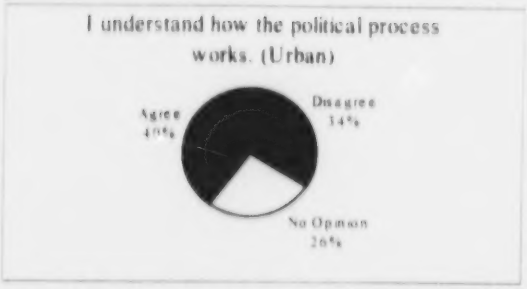
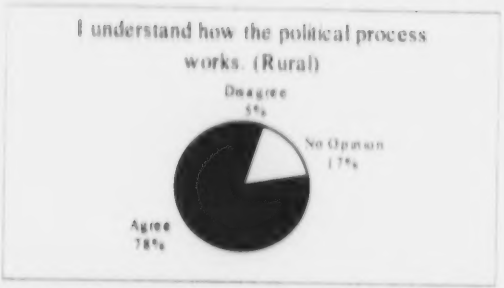
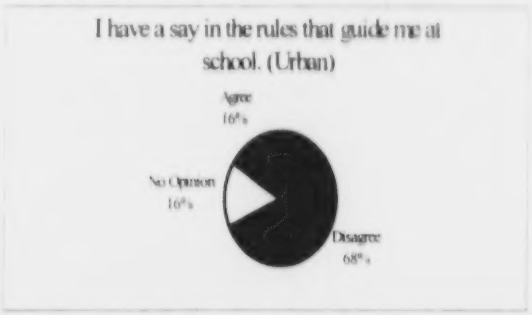
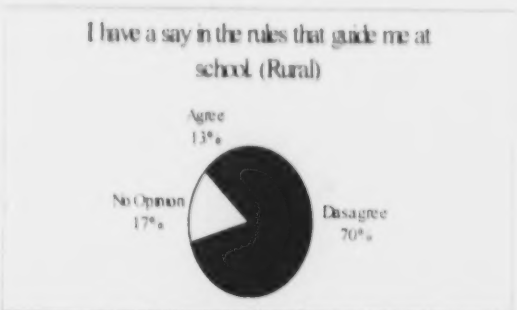




The teachers that instilled knowledge through the use of critical thinking skills and more frequent class discussion served to significantly increase students' confidence.

On the issue of modeling, students showed mixed reactions. Despite the open environment reported by PR classes, there were no other significant instances of democratic modeling. The lack of collaborative rulemaking and the absence of other democratic tools may have contributed to this response. There was an overwhelming negative response in all classrooms to the notion of students' contribution to the rules that guide them at school. The absence of that power,





coupled with the absence of other democratic devices may have lessened students' perceptions regarding democratic modeling. Although the PR classes did see democratic modeling in the presence of an open classroom, the responses to the question of democratic modeling in all four classrooms was relatively weak, especially in the case of collaborative rule making.

In the category of participation, again there was a difference between PU and PR. The students of PR were aware of many more opportunities for community service made available by their school (see graph above), and when asked about participation in the political realm, that of political discussions, PR classrooms again showed more participation than PU.

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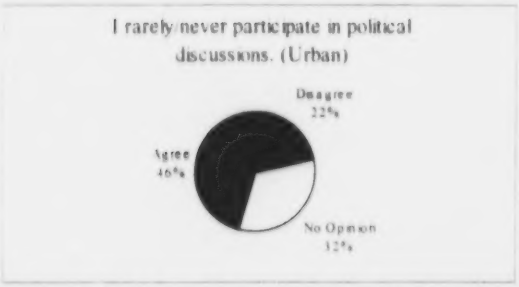
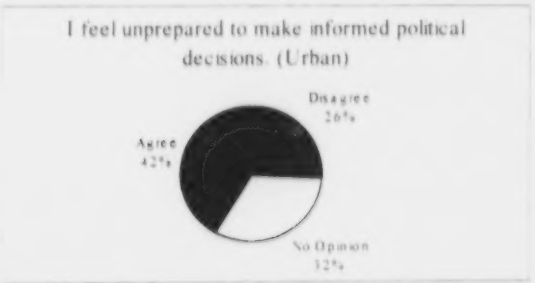
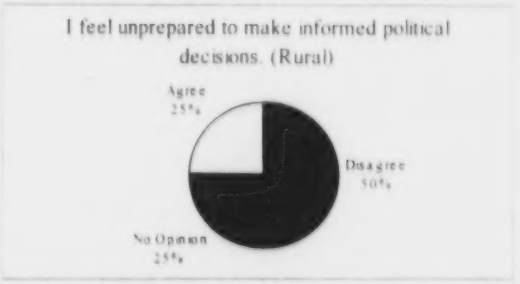


Through observation and survey it is apparent that the PR classrooms have exhibited the aspects conducive to the development of strong political efficacy to a greater degree than that of PU, and as such, display a higher degree of civic confidence:





It can be concluded, therefore, that the presence of the three aspects that research attributes to the augmentation and nurture of political efficacy, did make a difference in the classrooms studied.

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Applying Multiple Intelligences Theory in the Elementary Foreign Language Classroom

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December 1997

INTRODUCTION

The Elementary Foreign Language Program (FLES) in the local public school system, typical of FLES programs (Curtain and Pesola, 1988), is designed to introduce children to foreign language through speaking, listening, reading, writing, and culture, devoting 40-60 minutes per week to this task. Because of the limited exposure time to the language, quality lesson planning which reaches a diverse population of learners is essential. This research project examines how the teacher's awareness and application of the Gardner's theory of multiple intelligences in lesson planning impacts the engagement of students in the foreign language classroom. The research explores the theory that if time on task and student involvement can be maximized through the application of multiple intelligence strategies, students stand to benefit most from their brief foreign language experience.

REVIEW OF LITERATURE

Howard Gardner's (1983) concept of multiple intelligences applied in the educational arena can enable teachers to recognize the strengths of their students, understand more clearly their individual intelligence profiles, and modify the learning environment to meet their needs. Simply stated, Gardner's theory is that we all have different natural or innate intellectual strengths or "intelligences", and we learn best when these strengths are brought into play during the learning process. Conscious application of his theory has shown positive results in involving students in the teaching / learning process. (Lindvall, 1993)

Multiple intelligence (MI) theory is based on years of brain research, and proposes a multifaceted concept of intelligence that challenges the widespread notion of intelligence as

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something that can be objectively measured and reduced to a single number, the IQ score. (Armstrong, 1994) Gardner describes the existence of at least 7 basic intelligences, each independent of the others: 1) mathematical /logical intelligence; characteristic behaviors: thinks by reasoning, likes experimenting, questioning, figuring out puzzles, calculating, 2) verbal linguistic intelligence; thinks in words, likes reading, writing, telling stories, playing word games, 3) spatial intelligence; thinks in images, likes visualizing, drawing, doodling, designing, 4) kinesthetic intelligence; thinks through body related sensations, likes dance, running, jumping, building, touching, gesturing, manipulating 5) musical intelligence; thinks via rhythms and melodies, likes singing, whistling, humming, tapping feet and hands, listening 6) interpersonal intelligence: thinks by bouncing ideas off others, enjoys leading, organizing, relating, manipulating, mediating, partying, and 7) intrapersonal intelligence, deeply inside of themselves, enjoy setting goals, meditating, dreaming, being quiet, planning. In 1997 naturalist intelligence was added to this list (Checkley, 1997), a list that may continue to develop as research continues.

According to Gardner, everyone possesses an intelligence profile as unique as an intellectual fingerprint, which affects his potential for leaning. In the normal course of events, the intelligences will interact with and build upon one another from the beginning of life, and some individuals will develop certain intelligences far more than others. (1993)

Gardner himself cautions against attempting to isolate and "measure" multiple intelligences, although in application of his theory in an educational setting teachers are encouraged to examine the actions and activities of students in order to discover their natural strengths and areas of potential. While assessing student "intelligences" is not necessarily a paper and pencil task, a variety of written inventories are in use which hope to highlight understanding of intellectual strengths. Assessing students' multiple intelligence strengths has no function in itself, but should be reserved for the purpose of heightening students' self-awareness and modifying the learning environment to best serve the needs of the learner.

Gardner has no specific program or content in the application of his theory to education. It is essentially a philosophy that can be applied at the discretion of the practitioner, and which he highly encourages. In the foreign language classroom, the FLES teacher would apply Gardner's theory in the lesson planning process, carefully designing the thirty-minute period to include activities that will reach students with very diverse intelligence profiles. Accomplishing this task is the goal of content-enriched FLES programs, although the term "multiple intelligences" is not used to describe how the foreign language is taught. (Curtain and Pesola, 1994) The integration of subject content in the foreign language elementary program invites meaningful and varied instruction incorporating strategies which address all intelligences. A cooperative mathematics-

integrated lesson, for example, based on estimating and measuring the weight of classroom objects, would involve several intelligences: mathematical/logical, verbal/linguistic/ kinesthetic and interpersonal. Integrated content instruction of this nature provides opportunities for real communication in the second language. Curtain and Pesola emphasize the importance of a written plan that includes components which will make the classroom experiences come alive for the children, addressing the needs and the development of the whole child. They propose a balance of active and passive activities, listening and speaking (verbal/linguistic), one way and two way communication (interpersonal), Total Physical Response, (kinesthetic), songs, games and rhymes (musical), pair work and group work (interpersonal), and self-selected learning centers (intrapersonal).

METHODOLOGY

The subjects of this study of multiple intelligence application in the elementary foreign language classroom were a class of fourth grade students in a local public school who participate in two thirty-minute French classes per week. Their foreign language specialist (researcher) observed the students for a period of two months during their foreign language class and focused on their level of engagement in activities. Observations were noted on a rubric designed by the researcher, which included the following categories: highly engaged, participates when called on, does not participate, and distracting /disruptive. Comments were also included as a reminder of the circumstances. A record of the MI-related lesson plans accompanied each lesson observation as well. This allowed the teacher / researcher to review behaviors over a period of weeks, with the accompanying lesson information, in order to note changes that occurred.

The students were introduced to the theory of multiple intelligences during two special thirty-minute sessions not associated with their foreign language lesson. At this time they listened to a simple explanation of Howard Gardner's theory of intelligences, and were asked to think about which ones were their own strengths. At this time they were orally guided through Lindvall's Multiple Intelligence Student Interview (1995) and asked to indicate their responses by circling appropriate phrases or writing short comments. Typical questions on this interview asked for preferences, for example, between working alone or in groups, reading or watching TV, walking in the woods or playing ball, as well as activities, for example, working with clay, reading, sports, and music lessons. Tabulation of these responses provided the first of three components of the student's individual MI profile. The other components of this profile were provided by the classroom teacher who completed a related inventory (Armstrong, 1994), and the parents (Lindvall, 1995). Although no inventory was intended to be scientifically accurate, the three

together, along with observations sought from the music and art teachers, yielded insights into children's strengths. The information was combined to form the students' individual MI profiles, as well as a class profile, indicating the dominant intelligences of the class as a whole.

After the first weeks of the observation period the foreign language specialist began structuring lessons with a multiple intelligence format. During the following six-week period lesson plans were designed to include activities which would address as many of the intelligences as possible, and specifically those which the class indicated as strengths in their profiles. Although not all lesson content logically addresses all intelligences, a varied curriculum incorporated almost all intelligences over the six weeks that followed.

RESULTS AND DISCUSSION

The beginning of that six-week period coincided with the beginning of a period of increased engagement in a number of students, as noted in the teacher's log. Several students who were frequently inattentive and participated minimally in classroom activities in the weeks prior to the multiple intelligence focus showed continued improvement in the weeks that followed.

Although the MI inventories served to identify dominant strengths in all intelligences, the data suggested that the majority of the children were strongly interpersonal, as well as verbal-linguistic, and kinesthetic learners. Based on the information contained in the profiles, the incidence of hands-on activities was increased, as well as cooperative activities. Choices of activities were offered to suit varied abilities and talents. Thirty-minute lessons were designed with four to five transitions, reflecting as many intelligences. This group of students who at the beginning of the project had exhibited more than average attention problems appeared to be more highly engaged once the lessons were designed to more closely suit their needs. Attitudes were positive. The atmosphere was cooperative and students had more opportunities to interact in the language one on one. A negative observation at this point was the higher incidence of use of English by the students. Along with increased participation and attention, especially with collaborative activities, came the temptation to stray from the target language. This behavior, a problem of self-discipline rather than disinterest, creates a new challenge for the teacher: to provide structure and clear expectations while continuing to emphasize the dominant intelligences of this group.

CONCLUSION

The research suggests that there is a correlation between awareness of the students' strengths, application of the multiple intelligence concept in lesson planning, and improved student

engagement. MI philosophy respects the diversity of the learners and encourages teacher strategies that reach as many of them as possible. It provides the educator with an effective and simple rubric with which to evaluate the variety of strategies being used, and serves as a reminder to teach to the student's strengths. Applying MI theory in the foreign language classroom may be, as Armstrong suggests, just "good teaching."

This research project has benefited the students by resulting in a more "brain compatible" (Chapman, 1993) foreign language presentation. It has benefited the teacher / researcher as well, as an exercise in self-evaluation, and as an opportunity to focus more closely on the individual children, a daunting task when the "class load" is five hundred students. The multiple intelligences assessment tool provides a helpful "lens" with which a teacher can "view" any student in an effort to build an optimal learning environment and a positive, facilitating relationship.

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Individual Response Journals
vs.
Group Response Journals

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December, 1997

Introduction: The use of journals in the classroom varies according to the purpose for which it is imposed; the possibilities seem endless and are limited only by each individual teacher's creativity. A wealth of research and literature has been published on the broad topic of journals and the many facets that define it. A thorough study of this mass of data allows for the categorization of journals into specific types. This study is concerned with individual response journals, also called reflection journals, and a combination of response and dialogue journals. (True dialogue journals involve on-going dialogues between students and teachers. Those studied here involve dialogues between students and their peers.) There is great debate as to whether journal use improves writing technique, critical thinking skills, and general communication ability. The opinions offered by the researchers vary immensely, and they must be taken into consideration in terms of each individual study. In this specific study, students and teachers agree that both the individual and group journals are beneficial additions to the standard curriculum. Overwhelmingly, research participants found that interactive response journals called for more critical thinking as well as improved communication skills. Students declared that they worked harder in composing their opinions when they knew that they would be shared with their peers. They also discovered that by interacting with other students they were required to understand, accept, and often debate the statements of others. Those students who worked solely on individual response journals valued the opportunity to express their opinions and reactions to classroom material, but felt that had they been asked to back up their responses they would have been forced to think more critically. An important component of this research

involved an extensive interview with the cooperating teachers. It is based on their perceptions that these conclusions are drawn.

Review of Literature: In sifting through the mass of existing literature, it becomes clear that while few researchers discredit the use of journals, the value and worth placed upon their use varies as greatly as the type of journals being used in classrooms. Most critics agree that when focused on a specific purpose, journals can greatly enhance any curriculum. The research suggests that while growth often occurs in both critical thinking skills and communication skills, it is not always the case with writing technique.

While it is often considered a common assumption that asking students to reflect upon what they have read or heard in the classroom will naturally lead to improved critical thinking skills, Lynda McNeil (McNeil,1990) emphatically states that this is in fact false. She believes that the narrative pressures inherent in journal writing seem to work against critical analysis. She finds that most educators misuse journal writing by assuming that critical thinking follows naturally from the mere activity of writing and reflecting. Teachers must facilitate critical thinking skills through modeling and the teaching of specific thinking skills. Interestingly, a study which focuses on the development of interpersonal communication through the use of journals (Ames, 1991) can be considered as support for McNeil's argument. Ames suggests by breaking down the journal use into three components (classroom, reading and listening journals) the focus narrows, allowing students to concentrate on a specific skill. It is the application of this learned skill awareness that Ames claims further develops the thinking skills and essentially creates competent communicators. Both suggest that the typical use of journals is too wide open to produce the desired results and suggest narrowing the focus to improve student growth one aspect at a time.

Faye Kuzma's research (Kuzma,1994) explores double entry journals; it becomes increasingly clear upon understanding her belief that it is possible for a student to have a beneficial dialogue with his or her self. Thus, while it remains an individual response journal, this format offers a way to break out of the one way discourse and single-voiced thinking that predominates in traditional academic writing. It becomes an effective way for students to understand different perspectives. Kuzma's technique calls for the extension of meaning and personal application; this type of journal encourages teacher guidance while asking students to

push their abilities one step further. This, Kuzma claims, ultimately leads to an improved thinking ability.

Critical thinking involves a multitude of operations from recalling to analyzing to evaluating ideas. In order to foster critical thinking, students create bridges between concrete, everyday ideas and abstract concepts. Colleen Garside (Garside,1994) suggests that these bridges can be built through the use of journals, suggesting focusing journal use on specific dimensions of critical thinking. As McNeil, Garside suggests employing certain strategies to focus critical thought; by maintaining focus, writing, communication and critical thinking skills are all developed.

Many researchers explored both teacher and student attitudes toward journals. Both Angela Strausbaugh (Strausbaugh,1995) and Marie Skerritt (Skerritt,1995) conclude that a majority of students answering questionnaires believed journals to be a valuable aspect of the curriculum. Students felt less pressure when responding in a journal and found that they were especially worthwhile if they allowed for personal reflections from time to time not necessarily related to the assigned reading. Students enjoyed having an outlet for their feelings and opinions (Skerritt). Students also felt that is was important to know that teachers were going to read their entries, which may suggest a need for feedback from the teachers. Teachers agreed that journal writing is beneficial to both students and teachers. They found that journal writing allows everyone to respond and participate, connect oral and written language and think while writing (Strausbaugh). Most teachers felt that the use of journals supplemented their teaching immensely, for the in the journals students could relate to the lessons personally.

While both positive and negative arguments exist on the topic of journal writing, it seems that on some levels most critics agree that if used "correctly" journals can be powerful tools for the development of communication and thinking skills. Critics suggest that to be used most effectively, journals must be limited in their focus with goals clearly defined. Journals allow students to put their thoughts on paper; they can then extend their literal understanding on an abstract level and connect with it personally.

Methodology: Two sections of freshman and sophomore Seminar students were assigned either an individual journal or a group journal. (Seminar is a two- period long course in which students are given a combined grade for literature and social studies.) Students who were assigned

individual journals were given two prompts weekly that related to material covered in class. Students were encouraged to respond to the prompt by discussing issues, offering opinions and making connections to prior knowledge. These were collected every other week and awarded a quiz grade for completion. All other students were placed into "teams" of four or five students. Each week a teacher initiated prompt was entered in the notebook and students checked out the binder and offered a response. Students were asked to use the prompt only as a guideline and respond to what their teammates had to say. Often the next prompt came directly from some aspect mentioned in the journal by a student. Students were encouraged to defend opinions, debate issues and ask questions of their peers. These were collected weekly and each team was awarded the same quiz grade for completion. At the end of the twelve- week period, each student completed a survey that utilized a Likert scale to assess their attitudes towards the implementation of journals into the curriculum. Students were asked to rate the usefulness of the journals in the development of writing, critical thinking, and communication skills. The cooperating teachers were then interviewed extensively to assess their opinions on the same information. Conclusions were drawn from this data.

Discussion: Student attitudes towards journal writing appeared to play a significant role in their successful inclusion in the classroom. Overwhelmingly, those students placed on "teams" for the group journals valued the experience and felt that the opportunity to express personal opinions as well as debate with peers aided their growth as critical thinkers and effective communicators. They were mixed in their feelings as to whether writing in their journals helped them develop into more competent writers. The teachers agreed with these findings and believed the group journals offered students a wonderful outlet for productive, focused debate. The found that students took the time and effort to compose articulate entries, supporting each of their opinions and posing thought provoking questions. They were impressed with students' willingness to "listen" to the arguments of others as well as their mature ability to oppose opinions. What they liked most about the journal is that students genuinely enjoyed the activity. The individual journals received less praise from both students and teachers. While most rated them somewhat helpful, many students wrote on the bottom of the survey's comments such as, "I think the group journals were a much better idea." Students enjoyed the opportunity to express their opinions, but many felt limited by the prompt. Teachers believed that the students wrote their entries "just

to get it done," and felt that the contemplation apparent in the group journals was often not present in the individual journals. They did feel that they were valuable for those "quiet" students who rarely seized the opportunity to speak out in class. The felt that the responses were not particularly in depth because students did not feel the same need to support their arguments as the group participants did. The teachers suggested that while the caliber of student was not any lower in the individual journal subjects, the quality of work was in fact quite a bit lower. They believed that many of these students had less motivation to do well and therefore put forth a minimal effort. All of the teachers involved believed that they would use group journals with future classes.

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What Motivates Academic Achievement?

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December, 1997

INTRODUCTION:

Over the years there has been a considerable amount of research done regarding motivation and it's effect on academic performance. Motivation is seen as a vital element necessary for students to perform adequately in academics. Psychologists divide motivation into intrinsic and extrinsic motivation. The difference being the locus of causality. The purpose of this research is to show whether students generally believe that motivation plays a role in academic success, and to compare the level of extracurricular activities (high or low activity groups) with both types of motivation. This research will show whether there is a significant relationship between the two levels of extracurricular activity involvement and the two types of motivation based on questionnaires filled out by students and data analyzed using MYSTAT for Windows.

REVIEW OF LITERATURE:

Motivation has been a largely studied issue by researchers in regards to academic achievement. It has been proven that motivation plays an important role in the academic success of students. Motivation has been divided by psychologist and researchers into two categories. The categories are intrinsic motivation and extrinsic motivation. Both of these categories can be linked to academic success.

During the research process it became quite evident to this researcher that intrinsic motivation seems to be a very important factor in the academic achievement of students. Intrinsic motivation has been defined as "motivation associated with activities that are their own reward" (Woolfolk, 1995). Urdan and Maehr (1995) present intrinsic motivation as "motivation that includes needs, such as the need for achievement, the need for mastery, and the need for autonomy." The problem for teachers lies with generating intrinsic motivation in the students. Today's students show a decline in intrinsic motivation. The weight of generating intrinsic motivation in students has been placed on the heads of the teachers. The common theme in the techniques being used by teachers is to make learning interesting. Teachers employ interesting techniques in hopes of generating more intrinsic motivation to learn in the students.

A majority of the literature focusing on intrinsic motivation has been directed toward the self-efficacy beliefs of students. A student's "beliefs in their efficacy to regulate their own learning activities and to master difficult subject matters affect their academic motivation, interests, and scholastic achievement" (Bandura et al., 1996). Therefore, students' beliefs in their own ability can affect their intrinsic motivation and consequently affect the academic success of the student.

Although a majority of the research dedicated to motivation focuses on intrinsic motivation, there has been some information that directs attention to another type of motivation. Extrinsic motivation is also an integral part of academic achievement. Woolfolk (1995) describes extrinsic motivation as "motivation created by external factors like rewards and punishments." This type of motivation includes any outside influences that motivates a student to perform academically. The research in support of extrinsic motivation suggested that social factors could be the motivating force behind high academic achievement of students. Students may be motivated by social approval, social solidarity, compliance, and social welfare to perform well academically.

As it has been shown, a bulk of the literature focuses on intrinsic and extrinsic motivation in regards to academic achievement. Yet, other specific factors that could influence the motivation of students have also been given attention in the literature. For example, setting achievement goals by students in regards to academics. Achievement goals have been divided into two distinct categories. Woolfolk (1995) calls these two types of goals "learning goals" and "performance goals." Motivation also can be created through the setting of goals or from the

experience of stress that students experience in every day life. Everyday stress can negatively and positively affect the motivation of students.

METHODOLOGY:

My current research will involve three Winston-Salem/Forsyth County high schools. Of these three high schools, the students of four classes (99 total students) were given a 23-question questionnaire pertaining to motivation and academics. The questionnaire was set up with questions related to both intrinsic and extrinsic motivation and that could be answered using a Likert Scale ranging from strongly disagree to strongly agree. Also on this questionnaire the students were asked to list any and all extracurricular activities in which they participate.

The completed questionnaires were then tallied into three different scores: Number of activities, Intrinsic score, and an Extrinsic score based on the answers to specific questions. Each questionnaire was then assigned to a group depending on the amount of activities in which that particular student participated. Group 1 was assigned to those students who participated in the range of zero to three activities. Group 2 was assigned to those students who participated in the range of four to fourteen activities. The groups were defined by determining the median of the number of activities (median = 3) and then selecting a dividing point that would create relatively even groups. Thus Group 1 consists of 53 students and Group 2 consists of 46 students.

The scores were then entered into MYSTAT for Windows where statistical applications were performed. Separate Independent T-tests were created for both Intrinsic and Extrinsic scores grouped by both Group 1 and Group 2. Also calculated in the two separate Independent T-tests were both the Mean and Standard Deviations of each Group's score. The means for Group 1 and Group 2 were converted into percentages for both Intrinsic and Extrinsic scores creating four total percentages for analysis.

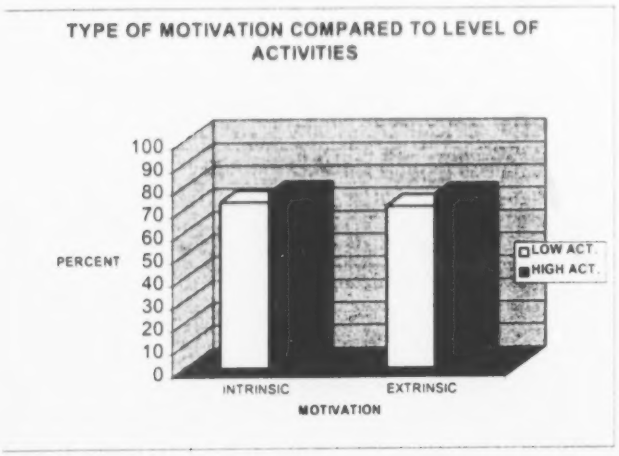
RESULTS AND CONCLUSIONS:

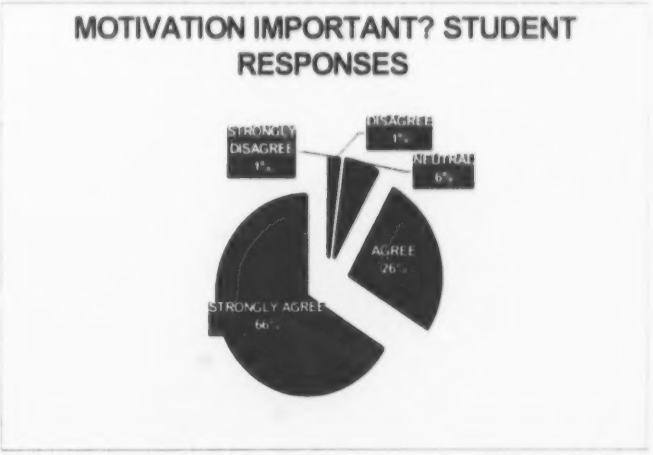
As discussed in the literature survey of this research paper motivation is seen to play an important role in the academic success of students. The results of the questionnaire showed that the students also believe that motivation plays an important role in academic success. 92% of all the students surveyed agreed that motivation does play an important role in academic success.

While only 8% either disagreed or were neutral on the importance of motivation on academic success. Thus showing that almost every student believes that motivation plays an integral part in the academic success of students.

The bulk of the research of this study centered around the relationship between the number of activities and motivation. For statistical purposes an Independent T-test was performed for both intrinsic and extrinsic motivation. The independent variable being the number of activities for each student surveyed and the dependent variable being the two types of motivation.

The results of the Independent T-tests also provide significant information about the relationship between the two different groups of activity levels, and both intrinsic motivation and extrinsic motivation. For intrinsic motivation, the higher activity group ($\underline{M}$= 23.22, $\underline{SD}$= 3.37) had significantly higher intrinsic motivation than the lower activity group ($\underline{M}$= 21.62, $\underline{SD}$= 4.29, $\underline{t}$ (97)= 2.04, $\underline{p}$< .05). For extrinsic motivation, the higher activity group ($\underline{M}$= 41.98, $\underline{SD}$= 4.32) also had significantly higher extrinsic motivation than the lower activity group ($\underline{M}$= 39.41, $\underline{SD}$= 5.92, $\underline{t}$ (97)= 2.44, $\underline{p}$< .05). As shown on the chart below, the means converted to percentages show the higher significance of the high activity groups in both extrinsic and intrinsic in more detail and in simpler terms.





Also, this research shows something quite different than some of the research referred to in the literature survey section of this paper. Urdan and Maehr (1995) state in their research that there is a decline in intrinsic motivation among students of today. The data presented in this research shows quite the opposite. As seen in the chart above, in both the high and low activity

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groups the percentages for intrinsic motivation are higher than the percentages for the extrinsic motivation. Thus showing no decline in intrinsic motivation in the students studied in this research.

The overall conclusions of the Independent T-tests done in this research show a significant relationship between the level of activities that a student is involved and both types of motivation. In this study it becomes evident that the higher level of activities that a student is involved in has a significantly relationship to both types of motivation than the lower level of activities. This gives the implication that the more activities that students are involved in, the greater effect there is on both types of motivation. As stated earlier, motivation is a key element in academic success, suggesting that an increase in the number of activities that students participate in can effect the academic success of these students. The more involved students are in other activities increases their motivation and will thus affect their academic success.

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High School Students' Perspectives on Good and Bad Teachers

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Introduction

By the time a student enters high school, he or she has been in school for at least nine years and has had many teachers. At some point, most students have thought about whether a teacher is effective or ineffective, though usually in an informal way. To the prospective teacher, the opinions of students on the matter of effectiveness are a very valuable source of information since students are directly influenced by the effectiveness of a teacher. This study will examine the criterion used by students to evaluate a teacher and how that evaluation relates to perceived levels of learning.

Literature Review

Many people would agree that our nation's schools are in trouble. There are bright spots in the education system but these are somehow dimmed by the difficulties encountered by so many other schools. These bright spots are both the teachers who love what they do and the students in whom those exceptional teachers believe. Many of the teachers could teach somewhere else but choose to stay at their school because of a genuine love for the children. But does that love by itself make an effective teacher? Many people love children but can they get young people to listen to them and learn from them?

Teacher effectiveness has been studied for many decades, with a strong resurgence during the 1970s and 1980s. The results from the research are as different as the teachers that are being studied. In addition to the research resulting in very different conclusions on effectiveness,

the participants in the studies are also quite diverse. The opinions of all involved should be valued, but especially those who are teaching and those who are being taught. The research tends to ignore the opinion of the high school student, but a teacher could gain valuable insights simply by asking the students what they think.

"Personal characteristics" seems to be the category most commonly cited by research participants when discussing teacher effectiveness. Shaw, Partridge, and Gorrell's (1990) study on college students in the United States and Sri Lanka reported that for both groups of students, the characteristics of kindness, friendliness, and a caring attitude were of utmost importance. A teacher needs to have a personality that appeals to students in order to keep their interest, especially with students that may not find the subject matter appealing. Sense of humor, fairness, and positive attitude were also mentioned in this study as important characteristics of an effective teacher. Though many different personal characteristics have been cited in research, it is clear that personality as a whole is a very important factor in determining the effectiveness of a teacher.

In addition to personal characteristics, many studies indicate that professional characteristics are important in the determination of teacher effectiveness. Knowledge of subject matter and organization were cited by both Shaw, Partridge, and Gorrell (1990) and Ogden, Chapman, and Doaks (1994) as being a common characteristic of effective teachers. It is also important for teachers to establish an effective learning environment. Included in that effective environment would be the teacher's social insight, or understanding what is going on in the classroom (Gordon, 1997).

Moving away from specific characteristics of effective teachers, the teaching methods used by good teachers ranks highly on the list of effectiveness indicators. Both Sri Lankan students and American students felt that a teacher's ability to bring real-life and practical examples into the lesson were marks very important. (Shaw, Partridge, & Gorrell, 1990). The children that are in school now are used to being entertained by television, computers, and electronics, therefore a connection to this interactive world that exists today is seen by many as a positive.

Though all of the elements of teaching methods that have been mentioned above are important, in general, the student's success must be at the forefront. Cimarolli (1993) lists a teacher's ability to create opportunities for student success, as one of the most important for long

term as well as short term effectiveness. A student's confidence and self-esteem is a very important ingredient in the learning process, therefore a teacher who finds a way to help these things grow while teaching the necessary material will likely be seen as an effective teacher.

Methodology

Subjects

The subjects in this study were students at a high school in the Winston-Salem/Forsyth County School System. The students were members of four mathematics classes taught by three different teachers at the high school. The total number of initial participants was 97.

Procedure

An informed consent letter was developed for the study to explain the purpose of the study to the students and to their parents or guardians. Each student in the chosen classes was given an informed consent letter to be signed by the student and a parent or guardian, and returned to their teacher. The return percentage on the consent letters was 62.89%. The participating students were given the questionnaire at the beginning of a class period selected at the discretion of the teacher. The questionnaire was made up of four questions, two open ended and two Likert Scale questions.

Analysis

The responses to the two types of questions on the questionnaire were analyzed through different methods. The responses to the open ended questions were grouped in common categories. This information was analyzed based on the frequency of response for each category. The responses to the Likert scale questions were analyzed based on the percentage of respondents circling each of the four possible answers.

Results

Good Teachers

The most common response by students when asked to describe what makes a good teacher related to the pace of the lessons and assistance from the teacher. 26.78% of the responses fit into this category. The responses relayed the message that a teacher who presents the material at an acceptable pace and takes the time to make sure that students understand the material are considered to be good teachers.

Personality (16.94%), understanding and caring (15.3%), and patience (9.84%) were second only to the lesson pace and teacher assistance responses discussed above. Personality was

described by the participants as nice, funny, laid-back, good sense of humor, etc., while understanding and caring was expressed in a way that related to student-teacher interaction outside of the classroom as well as inside the classroom.

9.29% of the students responded that a good teacher is one that makes learning fun and interesting. The responses indicated that hands-on activities and learning games incorporated into the lesson to help them learn were effective teaching methods.

In addition to the above responses, students indicated that having a good attitude and loving teaching (8.74%), controlling the class (4.37%), giving rewards (3.28%), and balancing the work load (2.73%) were important indicators of a good teacher.

The Likert Scale questions indicated that 67.21% of the students felt that they learned what was supposed to be learned from a good teacher either "most of the time" or "always".

Bad Teachers

Many of the most common responses by participants to the questions of what make a bad teacher fall under the category of personality characteristics. 21.86% of the responses said that a teacher who is mean, yells a lot, has no sense of humor, and "has an attitude" was a bad teacher. A bad teacher was also described as one who doesn't care about the students by 10.93% of the participants, while 10.38% indicated that a bad teacher is one who lacks patience. A very small number of participants indicated that laziness was another personality characteristic of a bad teacher.

25.14% of respondents said that one who does not do a good job of explaining the material and does not listen to the students' questions or one who simply moves too fast is a bad teacher. 8.20% felt that a bad teacher was one who gave too much work while 6.01% indicated that a "boring" teacher, or one who taught directly from the book was a bad teacher.

In addition to the above responses, students indicated that a bad teacher is ones who does not know the material (5.46%), do not have control of the class (4.92%), don't like teaching (1.64%), are unorganized (1.64%), and are never in the classroom (1.09%).

When asked how often they learned what they were supposed to learn from a bad teacher, 22.95% of the students responded "never". The majority of the participants (70.49%) responded that they learned what they were supposed to learn from a bad teacher "sometimes".

Conclusions

In many ways, the responses to the questionnaire in this study are similar to those reported in other reviewed studies. The major categories of personality characteristics, teaching method, and professional characteristics remain the important categories though the order of emphasis shifts based on the demographics of the participants.

Respondents indicated that good teachers helped students with questions, had good lesson pace, had a good personality, and were patient. On the other hand, the participants described bad teachers as having bad attitudes, not explaining things well, going too fast, and lacking patience.

In conclusion, a teacher striving to become or remain effective from the students' perspective should pay close attention to the responses given in this study. These students are indicating that they want teachers to slow down so that they may understand and to be patient with them when they don't quite get it. To a student, a nice teacher, a good pace, time to ask questions, and a little bit of patience is the key to success.

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Controlled Chaos?

Teachers' Questions and Students' Behavior in Large Group Discussions

by

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with

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December 10, 1997

Introduction

Many research studies agree that teachers' behavior greatly affects students' behavior. The use of questioning techniques in the classroom is perhaps even more universal than the connection between teacher and student behavior. Watson and Young (1986) claim that "teachers commonly ask as many as fifty thousand questions a year" (p. 126). Few investigators, however, link questioning techniques, in particular, to students' behavior, both on- and off-task, suggesting a productive and needed study.

Purpose

My study explores the potential connection between teachers' and students' behavior during large group discussions in the secondary school English classroom. I examine specifically the relationship between linguistic aspects of oral questions and the resulting student behavior, both on- and off-task. The results of this study will increase teachers' awareness of two particular elements involved in classroom discussion: teachers' questions and their relation to students' behavior. These results also will elucidate other dimensions involved in both the success and failure of large group discussion.

Review of Literature

Recent educational research advocates the use of a student-centered learning environment, achieved, in part, by pedagogical methods such as the discussion process. A key component of student-centered learning environments, particularly in the English classroom, are small-group activities. Numerous studies explore this recent emphasis on small-group

discussions in relation to student talk in the classroom. Researchers most often scrutinize patterns of student-talk for its capacity to increase or decrease the students' comprehension of literature, writing ability, and social interaction skills (Wollman-Bonilla, 1994; Nystrand & Gamoran, 1991; Nystrand, Gamoran, & Heck, 1993). Significantly, most studies investigating the failure of small-group discussions offer explanations centered on student roles, few offer explications of possible teacher contributions to the outcome of a discussion. Also, few studies examine small-groups for their effects on specifically on- and off-task behavior.

Some current research admits the significance of the teacher's role during discussions, but does not address particular aspects of teachers' behavior, such as questioning techniques, that also could affect the outcome of a discussion. Researchers most often analyze the teacher's role as a manager during large group discussion (Albritton, 1992; Smagorinsky & Fly, 1994; Sowder, 1993; Watson & Young, 1986). Examining student-talk, and the teacher's role in reference to discussions, reveals two factors urging further exploration: teacher talk, particularly teachers' questions, and teachers' impact on student behavior. In most of the research on the teacher's role in the classroom, researchers include arguments about characteristics of good questions only as a part of a more general discussion of the teacher's role as a manager (Edwards & Westgate, 1987; Watson & Young, 1986; Albritton, 1992; Nystrand & Gamoran, 1991; Nystrand, Gamoran, & Heck, 1993; Smagorinsky & Fly, 1994; Sowder, 1993).

The studies regarding questions in the classroom suggest that the impact of types of questions, and particularly their language, may be more far-reaching than comprehension; "certain kind[s] of question[s]" may also lead to "certain kind[s]" of student behavior (Sanders, 1966, p. 8). Unfortunately, researchers usually interpret student behavior as on-task behavior only, coding student responses and questions rather than comparing the frequency of on- and off-task responses (Nystrand & Gamoran, 1991; Wollman-Bonilla, 1994). Few studies examine the stages before student involvement; they do not link student behavior to the teacher's role, and particularly to the teacher's questions. These discussions relegate the success and failure of class discussions to the students. Further inquiry into possible connections between the language of teachers' questions and students' behavior will provide a more in-depth comprehension of success and failure of one of the most revered pedagogical tools of the student-centered classroom, the discussion process.

Methodology

I selected four English classrooms in a large, public North Carolina high school to observe. Each classroom contained approximately twenty-five students. I divided my sample into two groups based on tracking: honors (freshman and sophomores) and regular (junior and senior). I collected data from classroom observations and teacher interviews. I observed each of the four classrooms eight times. During observations I examined only those actions occurring during large group discussion. I recorded all teacher initiated questions verbatim, coding them later according to four criteria: long / short, concrete / abstract, closed / open, directed / undirected. I noted students' responses according to frequency on an observation check-list demarcating instances of on- and off-task behaviors. I also recorded the number of different students responding, both on- and off-task, on the checklist. My last measurement was a teacher interview, consisting of ten questions, targeting both behavioral aspects of discussion and questioning techniques. I first analyzed the interview data qualitatively, presenting a picture of each teacher's "ideal" discussion. I then used descriptive statistics, averages and percentages, to portray each teacher's "real" discussions. Finally, I used these descriptive statistics to compare the teachers to each other and to draw conclusions.

Results

The students' behavior in the classroom differed from what I originally anticipated when developing my behavioral checklist. When answering questions (on-task behavior), students often used short comments, rarely elaborating on their responses or questioning the material. I also was unable to use my behavioral checklist for students' off-task behavior. Students in this sample who exhibited off-task behavior maintained the behavior for the better part of a class period, despite shifts in activities and tasks. Students usually manifested this behavior within the first fifteen minutes of class. The most frequent behaviors included, applying make-up, sleeping, personal chatter, and passing notes. These students' behavior rarely changed as a result of questions asked during large group discussion.

Two out of four teachers consistently used more short-concrete-open-undirected (SCOU) questions than any other form of questions. SCOU questions account for the highest percentage of questions used in all four of Teacher A's discussions: 55.00% in discussion 1, 66.67% in discussion 2, 80.00% in discussion 3, and 40.00% in discussion 4. Although Teacher C only used two discussions during my observations, SCOUs also predominate. Out of 48 questions, 42 are short (87.50%), 30 are concrete (62.50%), 41 are open (85.42%), and 47 are undirected

(97.92%).

In contrast, Teacher B and D's discussions provide meaningful results regarding abstract questions and the use of varying forms of questions. For instance, Teacher D uses SCOU questions more than two thirds of the time, but along with ten other types of questions. Teacher B is the only other teacher to use such a variety of questions, also employing eleven forms of questions. Unlike Teachers A, C, and D, however, Teacher B used short-abstract-open-undirected (SAOU) questions most frequently, employing all forms of abstract questions 56.93% of the time. Significantly, both teachers B and D's questions yielded the highest average number of on-task respondents and the lowest average number of off-task respondents (Table 1).

Conclusions

The data regarding the teachers' questions generated, by far, the most interesting and fruitful data. Although the students' behavioral response data and the teachers' interview data do not suggest a relationship between teachers' questions and students' behavior, the data regarding the use of concrete and abstract questions and the variety of questions a teacher employs suggest that a relationship does exist, albeit tenuously. The details of teachers' questions reveal numerous factors to investigate further that may solidify the connection between teachers' questions and students' behavior: using abstract rather than concrete questions, a variety of types of questions, incentives to participate, teacher feedback during discussions, and directed rather than undirected questions. Investigating a teacher's overall attitude and the inconsistency between teachers' perceived ideal discussions and their actual discussions may reveal important connections to students' responding behavior as well. A tenuous relationship between teachers' questions and students' behavior and the possibility of other variables that also affect the outcome of large group discussion suggest further study, solidifying and delineating the exact nature of the connection between teachers' questions and students' behavior.

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Table 1: Comparison By Teacher of Various Factors in Large Group Discussion

Behavior and questioning factors separated internally.

FACTOR	TEACHER A	TEACHER B	TEACHER C	TEACHER D
ON-TASK RESPONDENTS	6.75	12.00	8.50	9.33
OFF-TASK RESPONDENTS	14.25	2.50	8.50	5.33
QUESTIONS	11.00	34.25	24.00	45.83
CONCRETE (C) QUESTIONS	8.25 75.00%	14.75 43.07%	15.00 62.50%	30.67 66.91%
ABSTRACT (A) QUESTIONS	2.75 25.00%	19.50 56.93%	9.00 37.50%	15.17 33.09%
SCOUs	6.25 56.82%	10.00 29.20%	12.50 52.08%	23.00 50.18%
LCOUs	1.00 9.09%	0.75 2.20%	0.50 4.17%	4.66 10.18%
SAOUs	1.75 20.45%	15.25 44.53%	6.00 25.00%	10.33 22.55%
LAOUs	0.25 9.09%	2.00 0.73%	1.50 6.25%	2.66 5.82%

*(average number of or average percentage of time used)

Teacher Control and Release and Student Attention

by

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December, 1997

Introduction

A question that concerns most new teachers is how much control they should exert in the classroom and how much should be released to the students. Cooperative and constructivist learning are stressed in teacher education with the primary goal being to inspire students to take control over their own learning. However, what teachers find to actually be effective, or do regardless of effect in the classroom may be different. Students' level of interest and participation needs to remain high in order for them to learn. However, if the class is too unstructured will the students remain on task? How does a very structured classroom affect their attentiveness and interest? The purpose of this ethnographic study was to observe four English teachers' teaching styles and determine the effects on student attention. I looked for an increase or decrease in attentiveness and interest depending on how much control was maintained by the teacher (teacher-centered methods) and how much control was released to the students (student-centered).

Review of Literature

Every year, education specialists explore new methods of teaching. The idea is to give teachers new tools to work with and to improve the quality of education. Presently, student-centered, cooperative learning is touted as a more effective way for students to learn than the traditional teacher-centered methods. Even though much has been written about student-centered teaching, high school instruction has generally remained teacher-centered.

Student-centered learning is not extremely popular in the typical high school classroom right now, but as the literature shows, it has merit. This type of instruction involves allowing students to work together and to take more control of their own learning rather than having a

teacher tell them what they must know. The basis of cooperative, student based learning has ties with Lev Vygotsky's theory of the Zone of Proximal Development. In a child's learning process, the Zone of Proximal Development is the stage when the child cannot solve a problem alone, but can be successful with help. They are on the verge of understanding, but they need a clue, encouragement or reminders from others to move ahead in their learning. In this sort of gray area where the child is challenged, but not left without assistance, learning occurs (Vygotsky, 1978; Woolfolk, 1995). An implication for the classroom is that students should not be left completely alone nor helped too much. In student-centered learning, the student takes responsibility for and control of her own learning but is able to receive help when needed from the teacher or peers. Students need to be in the position where they must reach to understand but external support must be available (Woolfolk, 1995). Cooperative learning also fits with constructivist ideals. Students become able to complete more and more tasks with less assistance. Vygotsky's theory is supportive of this method as an effective tool in education (Doolittle, 1995).

Student-centered learning is strongly tied to oral language in the classroom. The more students speak to the teacher and each other about what they are learning, the better they will formulate their own ideas. Walter Loban, a great proponent of oral language in the classroom, believed that speaking is an important aspect of learning and should be encouraged by teachers. Oral language is a skill that children naturally develop first before reading and writing. Loban found that students who had a chance to work on oral language skills also did better in writing and critical thinking (Loban, Ryan & Squire, 1969; Buckley, 1992). In student centered learning, oral language is naturally included because students are encouraged to speak with their peers and teachers about what they are learning. By articulating their ideas they retain some control as opposed to repeating what a teacher has told them to think. Returning to Vygotsky's theory, when students are at the point when they can't understand something without help, talking it through is very important.

Many educators have considered student-centered teaching methods better for learning than teacher-centered methods. Teachers, however, still continue to rely on teacher-centered styles. An important question to ask is why this is.

In a study done at the University of Iowa, Marshall, Klages and Fehlman tracked discussions in average English classrooms. The teachers expressed difficulty with achieving

student-centered discussions regarding reading assignments. The students were unable to have these types of discussions because they were not interested, not prepared or simply didn't understand the reading well enough to participate. They found that the students also considered teacher-centered discussions necessary to help them formulate statements about the text. In these cases, teachers definitely dominated and the student's remarks generally were restricted to responding to teacher's questions (Marshall et al., 1991).

Not all teachers, however, feel as restricted. In another study, Cifuentes, Davis and Clark (1996) examined the changes in teacher's methods since their preservice learning. The trend was for teachers to lean away from lectures toward more student-centered methods as they gained experience. After a course in educational technology, preservice teachers ranked lecturing third rather than first on a list of preferred methods and master teachers ranked lecturing fifth (Cifuentes et al., 1996). The more experience the teachers had, the more they leaned toward student-centered teaching styles.

Which teaching styles are better? The answer is not clear. In some situations, teacher-centered methods seem to make sense. In other situations, student-centered learning seems better. The question still remains to be studied.

Methodology

Participants were four high school English teachers and their students at an average high school in Winston-Salem, NC. Classes taught to all four grades were systematically observed for a total of nine weeks. The classes were not manipulated in any way, only observed.

The effectiveness of the different teaching styles observed was determined by watching for student attentiveness. Indicators such as inappropriate talking, sleeping, doing unrelated work, etc. were noted. At the end of the nine weeks, both the teachers and one of each of their classes received questionnaires which asked for their opinions on what type of lessons they found to be the most interesting and effective.

Results and Implications

The four teachers, who were observed, employed student-centered techniques infrequently. Generally they used more controlled, teacher-centered methods in their classrooms. Sometimes discussions leaned more towards a student-centered modal when the teachers asked open-ended questions, however, this was not the rule. In a few instances, the

students were given the opportunity to work collaboratively, but again, in rare cases. These instances that seemed more student-centered occurred in 22% of three of the teachers' lessons and 44% in the fourth teacher's lessons.

In the questionnaire, the teachers supplied their opinions about the two different styles of teaching. In general they all felt that student-centered techniques were usually worthwhile because they gave students the opportunity to engage in "hands-on learning" and to "express themselves regarding a work of literature they have read." Some reservations that the teachers had about this kind of learning were the disorder that could ensue. Some classes need "more teacher facilitation and monitoring" because of behavior. One teacher commented that the students "tend to socialize which causes assignments to take more time". Regarding more structured, teacher-centered classes, some teachers thought that the students learned more in this type of environment and needed the structure. Other teachers, however, thought that even though a freer environment "requires patience and some tolerance of what constitutes 'constructive' discussion", the students tend to learn and retain more.

The students, in their questionnaire, heavily favored student-centered activities. 68% felt that cooperative learning is effective for learning and 72% thought that class discussion is important as well. When they were posed with the question whether more freedom equaled more enjoyment, 77% agreed.

Student attention did vary in the different classes observed. Because there were no obvious distinctions between student-centered and teacher-centered lessons, the reasons for better attention were more subtle. When discussions became more open-ended with the teacher asking students for opinions instead of cut and dry answers, the students tended to respond more and become more involved in the topic. Level of teacher engagement also made a difference. Most teachers are interested in a successful classroom. They spend long hours preparing for their lessons and care about what their students learn. Those teachers, however, who seemed to make more of a connection with their students had less than half the problems with attention that the other teachers had. They may not have employed student-centered methods in their classrooms, but their demeanor with their students seemed to have a student-centered feel to it. If the students perceive that the teachers are indeed engaged, they will respond accordingly.

The implications of this study are that student-centered practices are still important for student learning and attention. Both students and teachers do believe that these methods have a

place in the classroom but are not used enough. When teachers give students some control over what happens in the classroom, they are more vested in their learning. Their interest increases and attention improves. Those open-ended discussions involving teachers who were perceived to be engaged with their students were more successful. This indicates that teachers may be more successful if more student-centered methods are employed.

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Teaching as Situational Art: An Exploration of Questioning and Analogy in the Secondary Mathematics Classroom

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One reason why our profession as teachers is so exhausting is that we are constantly working against the tide, trying to make people think. Thinking is a pleasure, and an ingredient of the highest happiness; but it is an uncommon pleasure, and a difficult one to appreciate (Highet, 1976, p. 34).

I. Introduction

Mathematics is a discipline that many today approach from a "scientific" perspective. Its seemingly formulaic character and its frequent use as the handmaiden of scientific investigation lead many to the short-sighted conclusion that math is merely a science, or a tool of the sciences. Mathematics, however, is larger than this truncated vision: it is both an art and a science, and probably more art than science at higher levels. Similarly, the practice of teaching mathematics is more like producing a work of art than conducting a scientific inquiry. Gilbert Highet reflects upon this truth in his classic book, The Art of Teaching:

> "Scientific" teaching, even of scientific subjects, will be inadequate as long as both teachers and pupils are human beings. Teaching is not like inducing a chemical reaction: it is much more like painting a picture or making a piece of music, or on a lower level like planting a garden or writing a friendly letter. You must throw your heart into it, you must realize that it cannot all be done by formulas, or you will spoil your work, and your pupils, and yourself (1954, p. vii).

Part of what is involved in this "art" of mathematics teaching is sculpting anxious students into confident problem solvers, who are fluent in the language of mathematics. The teacher should conduct the class as if it were a full orchestra of musicians in concert. Creating and directing this "work of art" is no insignificant task! Even the mention of the word "math" strikes fear and anxiety into the hearts (and minds!) of many people who do possess the abstract thinking skills needed to learn the subject. The often scientific-like content must be approached as if it is a

foreign language, a different way of communicating truths about the cosmos and about systems of our own mental creation. Although it may appear algorithmic and formulaic at times, mathematics must not be taught using only "scientific" procedures. Instead, it should be taught using methods that help to provide mental images and pictures that will facilitate mathematical thinking and communication. In other words, mathematics teaching, at its very best, strives to make the "unintelligible" both intelligible and relevant to everyday life for all students.

II. Review of Literature

Many approaches exist that address the present-day mathematics teaching situation, one of which is the perspective of the National Council of Mathematics Teachers (NCTM) Standards documents. These documents aim to illuminate a set of mathematical and educational values and to give a sketch of how those values can be implemented in the classroom. The writers of these documents thankfully recognize that teaching is indeed an art and cannot be "prescribed" (NCTM, 1991, p. 20). In articulating new values freedom is provided; a freedom that permits teaching to be what it is — a "situational" art. The sample problems and vignettes included in the Standards seek only to make concrete what is described in an abstract way.

Another way to address the present-day mathematics teacher situation would be to observe one ancient teacher to obtain a continuous and fleshed-out picture, as opposed to a series of vignettes of present-day math teachers of all different levels. Well, why study an ancient teacher? Several aspects of ancient teaching can aid our modern situation, especially the ancient emphases on the arts of questioning, storytelling, and drama. This particular part of the past, including the histories of ancient Greece and Rome, can and does speak to our own modern pedagogical weaknesses. A relevant and timely ancient example for secondary mathematics teachers is Jesus of Nazareth, itinerant teacher of the Galilee. In many respects he followed the teaching styles and thought patterns of his contemporary Jewish rabbis: he proclaimed divine law, taught in synagogues, gathered students, debated with scribes, was asked to settle legal disputes, sat as he taught, and supported his teaching with Scripture (Bultmann, 1958, p. 8; Stein, 1978, p. 1-2). In several places, however, he made significant departures from their techniques and patterns: he taught nearly anyone, anywhere (Stein, 1978, p. 2; Vermes, 1993, p. 50). In other words, he used the best of the techniques of his colleagues while pioneering his own innovations (Vermes, 1993, p. 72-3). Jesus has particular relevance for math teachers because he

tried to teach people about the "Kingdom of God," a seemingly unintelligible reality that must have seemed like a foreign language, not unlike how many people feel about mathematics.

Jesus had a working command of the various facets of questioning, beginning with a sound knowledge of what was axiomatic and what types of argument or reasoning were acceptable. He taught his students by questioning them, and he made teaching situations out of other people's questions. Jesus approached questions posed to him in different ways, depending on the intent and sincerity of the questioner. To those who sincerely wanted knowledge and understanding he responded with truth given in love. To those who were insincere or manipulative in their quest for knowledge he responded decisively with counterquestions asked out of grief.

He also taught using parables because through them he was able to meet people where they were (in rural Galilee in the first century), using language that they would understand (about agriculture and fishing, for example), freely drawing them into the abstract pursuit of God's truth by concrete metaphors and images. As people living in the twentieth-century, we often struggle with describing reality in terms other than scientific ones. We must recognize that Jesus did not speak in scientific terms, but he did lead his students into a pursuit of truth:

> Scientific description is merely one method of describing reality. At times and in certain contexts it is no doubt the best method, but in other contexts it is inappropriate, or, at least, less suitable than others . . . The form or vehicle that Jesus used to convey his message is clearly not the language of twentieth-century science but rather the metaphorical, exaggerating, impressionistic language of a culture that loved to tell stories (Stein, 1978, p. 32).

III. Methodology

Among Jesus' greatest teaching methods are his gifted use of parables and questions. I, therefore, wanted to explore how analogy and questioning can be used in the secondary mathematics classroom. To do so, I taught a pre-Algebra lesson to a class at R. J. Reynolds High School on the topic, "Adding and Subtracting Unlike Fractions." Throughout the class period I asked many questions of the students, ranging from abstract mathematical questions (e.g. "why do we need several 'names' for the fraction 1/2?") to more personal questions (e.g. "does anyone have a nickname?", "does anyone help cook for Thanksgiving?"). The class also solved problems together, with only my questions to guide them. When the class successfully communicated a concept to me, I wrote their step on the overhead. I let them pursue incorrect

avenues, only asking questions about their reasoning. Either the content of my questions or the observations of their fellow group members stopped them from going too far down the wrong path.

The two images or analogies that were used in the lesson were fractions as names and fractions as rulers. We explored the idea that a person can have multiple names or nicknames, but each one of these names refers to the same individual. I presented the idea that fractions can have many names, which look and sound different but refer to the same quantity. They easily named 1 ½, 9/6, and a host of other non-reduced improper fractions.

The analogy of fractions as rulers was based on a handout called "Fraction Strips," in which the strips of the same size are divided into halves, thirds, fourths, and so on. They can be cut apart and placed on top of each other, or a student can find a quantity on one ruler, and follow it down the sheet of rulers to find the names of equivalent quantities. This visual aid proved to be a concrete way to help students identify equivalent fractions. When I asked students to look at their rulers and give all the names for 1/3, they had no difficulty.

To assess the lesson, I asked each student to complete a questionnaire, along with interviewing the class' regular teacher. This data helped me to access the impact of analogy and questioning on student learning. The content presented apparently kept the students' attention. They were also comfortable with the method of questioning used and found the analogies to be helpful, as seen in the student responses to the questions below:

When the teacher tells me that something is "like" something I already know,

It helps me to understand **(94%)**	It does not help me to understand **(6%)**

Today the "connections" that the teacher made were:

not helpful **(6%)**	helpful **(94%)**

The teacher thought my lesson particularly furthered the following curriculum standards, mathematics as communication, and mathematical connections. Students, although not knowing about these curriculum standards, came to similar conclusions on their own. One student, echoing both Standards 2 and 4, said that: "The teacher knew how to explain everything so that we could understand it." That indeed was my goal in teaching this lesson: to use questioning and analogy to meet students where they are in order to teach them math.

IV. Conclusions

What in the world does Jesus have to do with the secondary mathematics classroom? He is, in short, a master teacher, one of many good models that teachers can learn by imitating. Both

Jesus and the NCTM Standards agree that all students should be taught, whether it be about the Kingdom of God or mathematics. Both Jesus and the Standards believe that teachers should teach with authority (NCTM, 1991, p. 4). Both Jesus and the Standards believe that students should be drawn into the pursuit of truth, drawn into the drama of thinking and learning, by artful questioning and storytelling. Both Jesus and the Standards agree that "you can lead a horse to water but you can't make him drink." Both Jesus and the Standards agree that a teacher should direct classroom discourse as a drama, with that dramatic dialogue as the central focus (NCTM, 1991, p. 152). Both Jesus and the Standards agree that "what students learn is fundamentally connected with how they learn it" (NCTM, 1991, p. 21). Both Jesus and the Standards believe that teaching is indeed an art form (NCTM, 1991, p. 22).

Studying the teaching methods of Jesus and implementing them in the secondary mathematics classroom animates the content of the Standards in a new and dynamic way. Jesus, as an ancient teacher of all kinds of students, provides us with insights into the rich teaching techniques of a storytelling culture, but also is an example of "a heart searched and transformed by truth" who encourages others to "seek transforming knowledge" (Palmer, 1983, p. 45, 108).

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DO TEXTBOOKS STIMULATE STUDENTS?
STUDENT ATTITUDES TOWARD HIGH SCHOOL BIOLOGY TEXTBOOKS

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Introduction

Science textbooks have an important influence on science curriculum in secondary education. There has been much criticism in recent research regarding this major influence. Often, science textbooks are simply reference books containing definitions and facts. This is contrary to the position of the National Research Council, which believes science textbooks should focus on a few major concepts and principles (1990). Since textbooks are designed for student use, student thoughts and feelings regarding textbook characteristics must be addressed. This research examined student attitudes toward textbook questions, illustrations, and photographs. These attitudes were compared to the ideal textbook characteristics that have been found in a review of the literature.

Review of Literature

A review of the literature finds that 75% of biology classroom instruction is accomplished by means of a textbook (Blystone in Jablon, 1992). Criticism of science textbooks is obviously widespread in the literature and is relevant to textbook evaluation. However, it is also important to examine the characteristics that researchers feel an ideal science textbook should possess.

Questions

The level of questioning in science textbooks has been examined in previous research. In order for students to learn from textbooks, they must be able to understand the information they read and to integrate it with what they already know. This process enables the student to form "new knowledge"(Shepardson & Pizzini, 1991). The authors found that textbook questions assist the student in focusing on the "central elements" rather than the "peripheral elements" and this enables the student to understand and to integrate the new information (1991). Interestingly, Shepardson and Pizzini found that textbooks contain an abundance of lower level questions and this prevents the "integration of textual information with existing knowledge, limiting the modification of existing knowledge" (1991). In later research, Shepardson insists that high-level

cognitive questions improve thinking skills which are necessary for the development of higher-order thinking (1993). Student use of questions has also been examined in research. Tamir found that only one-fifth of the students he studied responded to the questions seriously (1995).

Illustrations and Photographs

Research suggests that certain characteristics of a textbook improve student performance and interest. According to research cited by Holliday, students who studied photosynthesis and respiration from diagrams performed better on some tests than did students who studied the topics solely from the text. Holliday also writes that "line drawings, diagrams and photographs can elaborate, clarify, and make memorable the text they accompany" (1990). However, illustrations and diagrams are not a guarantee that students will learn. Visuals must "be used more frequently to reiterate and reinforce important information" (Holliday, 1990).

Oftentimes, publishers will fill a textbook with colorful, attractive illustrations and diagrams to increase its appeal. According to Holliday, "the use of color does not necessarily change student attitude toward science or motivate them" (1990). He does say that the use of color can help students determine which information is important (Holliday, 1990). Research has also been conducted to determine the influence of various diagram types on student learning. Winn (1988) examined diagram types in depth. He concluded that if a diagram contains explicit information, students will pay attention to this information while neglecting to see the diagram as a complete concept (Winn, 1988).

Based on the research regarding visuals and questions in science textbooks, it is possible to examine their status in current textbooks as well as student attitude toward each characteristic. Specifically, this study looked at textbook questions, illustrations, and photographs. Student attitudes toward these characteristics in different biology textbooks were examined. The characteristics of the textbooks used in this study were compared to what has been found in the research regarding the effectiveness of certain textbook characteristics. The following factors were examined to determine how they affect student opinions and uses of biology textbooks: 1) location of questions, 2) number of questions, 3) difficulty of questions, 4) complexity of illustrations/photographs, and 5) color of illustrations/photographs.

Methodology

Subjects

The subjects of the study were eighty juniors and seniors attending a local high school. The population of the school consisted of 1,414 students with minority students comprising 38.6% of the student population and white students comprising 61.4% of the student population. The subjects were enrolled in either Regular Human Anatomy and Physiology or Honors Human Anatomy and Physiology.

Instrument

The instrument used was an eight item ranking questionnaire which also contained eight open-ended questions. The questionnaire was developed by the researcher. The questionnaire was designed to determine student attitudes toward and use of three different high school biology textbooks. The characteristics examined were questions, illustrations, and photographs. Students completed the ranking scale while referring to all three textbooks at the same time. The instrument was determined to be valid by the researcher and advisors. The final instrument contents were based upon responses and comments made by a pilot group of students that completed the questionnaire.

Design and Procedure

One group consisting of eighty students was given the opportunity to complete an eight item ranking questionnaire that also consisted of eight open-ended questions. There was one version of the questionnaire. Those students who wished to participate returned a consent form signed by their parent or guardian. Thirty-eight students chose to participate in the research project. The students were surveyed during their normal class period. The questionnaire was administered to six students at a time. The subjects were given copies of a section from three different high school biology textbooks. The pages of the sections with illustrations or photographs were printed in color, while the pages with questions were printed in black and white. The subjects answered the ranking questionnaire while referring to all of the textbooks at the same time. This surveying procedure was repeated until all thirty-eight subjects had completed the questionnaire.

Analysis

From the ranking questionnaire, the frequency of each ranking combination was calculated. It was then determined which textbook received the highest ranking for each questionnaire item. Trends in the answers to the open-ended questions were recorded, and the frequency of the various responses was noted. Based on these results, conclusions were made about student opinions toward and use of high school biology textbooks.

Conclusions

There has been a great deal of criticism of high school science textbooks in the literature. Researchers have determined the characteristics they feel an ideal science textbook should possess. However, student attitudes toward science textbooks have not been thoroughly assessed. Student attitude is potentially a very important aspect of textbook reform. After all, the students are the individuals who are meant to learn from the textbooks. This study has attempted to focus on student opinions about several characteristics of high school biology textbooks: questions, illustrations, and photographs. An attempt has been made to see if the results correspond with what researchers have found to be ideal textbook characteristics.

It is interesting to observe that each of the three biology textbooks examined ranked highest in only one category. The students gave the highest ranking to the photographs in Book 1 (Biology: The Dynamics of Life), the questions in Book 2 (Biology), and the illustrations in Book 3 (BSCS Biology: An Ecological Approach). The specific characteristics of each textbook were assessed and compared to the ideal textbook characteristics previously discussed in the review of the literature.

Questions

Based on the results of the ranking questionnaire, students prefer section preview questions that have very specific objectives and provide key terms along with a broad overview of the section. The more straightforward the information provided by the section preview questions, the more positive the studentsÕ opinions toward them. Students had a more positive attitude toward section review questions that were specific and easy to find within the text. In other words, they preferred lower level questions. They also preferred section reviews with fewer questions.

Illustrations

From the questionnaire, it is clear that students have a favorable opinion of descriptive and detailed illustrations as well as those which are colorful and bright. All of the students said they paid attention to textbook illustrations. Many felt that the illustrations helped them to understand the information better than the text. Because students rely so heavily on the illustrations, they preferred illustrations that gave specific information.

Photographs

According to the questionnaire, students have a more positive attitude toward photographs that are easy to understand. Specifically, they prefer additional information to be provided to help them understand the photograph. A colorful photograph also improved student attitudes toward the photographs. All of the students said they paid attention to the photographs in biology textbooks.

Implications

Student opinions toward and use of biology textbooks are influenced by the questions, illustrations, and photographs found in the textbook. The results of this research project illustrate that student opinions of textbook characteristics differ in many ways from what previous research sees as ideal textbook characteristics. For the most part, students prefer to have material presented to them in a straightforward manner. They do not wish to be challenged to develop higher level thinking skills. Previous research insists that in order to develop higher level thinking skills, science textbooks must enable students to think critically. It is apparent that the majority of the students would not have a favorable opinion of a textbook that possessed what the researchers see as ideal textbook characteristics. Should publishers rely on the previous

research or should they modify books according to student opinion? Educators and publishers can use the results of this research to create more useful and more valuable biology textbooks.

Perhaps the most crucial element in student learning of a subject is getting and keeping the student's attention. Regardless of what previous research has found about textbook characteristics, if textbooks do not appeal to students then the book is essentially useless. Based on this research, it can be stated that visual presentation is very important in obtaining student interest. Bright, colorful, and well organized illustrations, photographs, and questions are necessary to obtain students' interest.

This research found that most students prefer questions of a lower cognitive level. However, this does not mean that only lower level questions should be used in biology textbooks. Previous research suggests that questions should challenge students. Once student interest has been piqued by colorful and descriptive photographs and illustrations, then higher level questions can be used. Because the majority of students prefer lower level questions, textbooks should have a combination of lower level and higher level questions. The questions should be dispersed throughout the text not placed solely at the end of a section.

Another important factor in student learning is teacher involvement. Teachers must emphasize the importance of critical thinking questions and create activities based on them. An interactive relationship between the textbook, the student, and the teacher is necessary to facilitate student learning.

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Class Discussion:
What Helps What Hurts

by

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Introduction

The importance of class discussion has been well-documented. Not only do rich discussions enable students to penetrate beyond the superficial, they also allow students to realize the different ways in which issues can be interpreted by their peers (Lehman & Scharer, 1996). Discussions can allow students to extend the events in the discussion to relate to their own lives, therefore establishing an added relevance to themselves and giving them a new outlet through which to express and make sense of their own life experiences. In order to enable this, however, a teacher has to establish a classroom atmosphere in which students feel secure about sharing their thoughts and ideas. I would like to explore, both from the student's and teacher's perspective, the qualities they consider to be essential in a class to facilitate productive and meaningful class discussion. I am especially interested in seeing where the focus lies for both teachers and students . Do teachers and students, for instance, place a greater emphasis on skills, grammar, and content as building blocks to good discussion or does the greater emphasis lie in the mood and relationship established between students and teacher?

Literature Review

There are several factors that can directly affect a student's involvement in class discussion. A major element can be the teacher's attitude towards the language the students

bring to the class and a desire to have the student's conform to their idea of correct and standard usage. Geneva Smitherman, in her book Talkin and Testifyin, addresses this concern as she states that "language conventions and the English grammar handbooks…are based on a preoccupation with the all-engrossing question 'What is correct English?' Not: What is dynamic vivid language? Not: What is contextually appropriate language? Not even: What is truthful language? But simply: What is 'correct' language?" (Smitherman, 186). Does this attitude prevail in classrooms today, and if so, do students feel their expression is repressed by teachers who feel the need to maintain rules of standard language use in class discourse?

Studies in inventive spelling could shed light on the kind of approach that leads to more fluent communication. Inventive spelling is a process that involves allowing elementary students to devise their own method of spelling words in the context of reading and writing activities as opposed to traditional methods which often present words isolated in lists. Mary Jo Nicholson concluded in her study that students who were allowed to use inventive spelling stated that their ideas flowed more easily and that they were more relaxed during the writing process. In this case, students do not learn correctness at the expense of stifling their creativity. Is this emphasis on communication versus correctness evidenced in high school classrooms where many teachers may feel pressured to instill rules of grammar and standard usage?

Further research concerning expression in the classroom has concluded that many women and minorities can significantly augment the classroom environment if they are able to share their own experiences when involved in class discussion (LePage, 1996). LePage concludes that it is important that teachers foster freedom of expression in the classroom if students are not to feel marginalized as they create meaning for themselves in an academic environment. Teachers play a vital role in allowing the acceptance of this personal expression in setting the tone for the rest of the class as the inability to create meaning through sharing experiences can often be experienced as rejection.

Do teachers feel that it is important to allow for this personal, expressive freedom and understand the link between personal expression and deeper penetration into the ideas explored by the class? Do students feel comfortable sharing these experiences in front of their peers and teachers? These are some of the questions I hope to explore in this study.

Methodology

I distributed two sets of surveys, one set to three teachers and the second to their students in both regular and honors-level English classes. The teachers survey focused on their attitude towards students' usage of standard language in the classroom as well as their feelings regarding students' use of slang, colloquialism, and profanity. The students' questions focused on their feelings regarding their ability, and comfort, in expressing themselves freely in class discussion. Both students and teachers were also given one free response question concerning what type of teacher or class enables good discussions.

Results

Results of the student survey:

Do you usually look forward to class discussions concerning literature?

50% -- Yes 50% -- No

Do you feel like you can speak freely in class in order to express your thoughts and ideas?

76% -- Yes 24% -- No

Do you feel as if the people in your class listen and respond to what you have to say during class discussion?

61% -- Yes 39% -- No

Do you feel as if your ability to communicate your thoughts and ideas has been improved by this class?

50% -- Yes 50% -- No

Do you feel comfortable when speaking during class discussions?

75% -- Yes 25% -- No

When you speak up during class discussions, do you feel you have to be very careful about speaking correctly? (for example, using correct grammar, not using slang)

34% -- Yes 66% -- No

Results of the teacher survey:

Great emphasis should be placed on discussion in the English classroom?

1 – Strongly Agree 2 – Mildly Agree

It is important to structure time for class discussion into your lesson plan

2 – Strongly Agree 1 – Mildly Agree

It is not imperative that students use correct grammar when participating in oral discussions.

1 – Strongly Agree 1 – Mildly Agree 1 – Strongly Disagree

I think that the most effective way to improve students' grammar is to correct them during class discussion.

2 – Mildly Agree 1 – Strongly Disagree

I do not like it when students use slang or colloquialisms in class discussion.

1 – Strongly Agree 1 – Mildly Agree 1 – Mildly Disagree

I don't necessarily mind when students use profanity during class discussion.

3 – Strongly Disagree

Discussion

I found that although all teachers agreed that a major emphasis should be placed on class discussion, each of the three had different attitudes regarding the parameters of that discussion. Two teachers agreed that freedom of communication should come before attention to correct grammar during discussion while the other teacher strongly disagreed with the statement, saying that correct grammar during discussion is imperative. This same teacher stated that she does not allow students to use slang or colloquialisms in class. Her emphasis on correct speech does not, however, seem to effect her class's attitude concerning discussion as the percentage of students who answered in the affirmative to the questions concerning freedom of classroom discourse and comfort level in the class were slightly higher (77% and 82% responded yes) than the average for all of the classes.

In their open responses the common thread among the three teachers seemed to be an emphasis placed on creating an environment where the students feel free to communicate, change and develop their ideas. Each teacher emphasized a different aspect of this atmosphere. One emphasized the importance of the students respect for one another while another teacher stressed the importance of allowing the students to express ideas contrary to her own. Only one of the teachers mentioned the importance of the students' knowledge of the material to a good class discussion. The focus of each of their comments seemed to be the importance of establishing a relationship with the students that would enable each person's freedom to express ideas independently within an environment of mutual respect.

This emphasis on the mood established by the teacher as opposed to the teacher's actual knowledge of the subject matter and teaching technique is mirrored in the students' opinions concerning what type of teacher they feel has the best classroom discussions. From the comments, the students indicate that it is more important that the teacher demonstrate a respect for the students' own voices and experiences than an encyclopedic command of the material to be taught.

The teachers attitudes concerning proper use of standard language use did not seem to have any effect on the students' attitudes regarding class discussion as the survey indicated that the students were split down the middle with regard to the question "Do you usually look forward to class discussion?" This could also be indicative of the fact that only 34% of the respondents felt the need to speak carefully when participating in in class discussion. To sum up common themes found in the open response section of the student survey, teachers who command the students' respect are those that connect with them on a personal level, establishing an environment where expression of ideas is valued over correctness of execution; or as one student said "A teacher who can identify with the students and will treat them with respect and help them out if they make a mistake."

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Foreign Language Study in High School: Is Two Years Enough?

by

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Introduction

The articulation between high school and college foreign language courses is a serious issue that has been studied in order to try and determine how best to suit the needs of students and teachers. There are many variables that cloud the issue and make articulation from one program to another difficult (Lange, Prior and Sims 1992). University professors agree that students are entering college lacking skills that make for a smooth transition (LeBlanc and Lally 1997). Unfortunately, a current trend in foreign language study at the high school level is to complete a two-year sequence (ACTFL 1996, Ramage 1990). A research study to examine the effects that lack of foreign language preparation in high school has on college students' foreign language experiences will be helpful to educators, administrators and policy makers.

Review of Literature

The oral proficiency movement of the late 1970s began when it was realized that "a widely used, nationally approved procedure for assessing students' language proficiency, especially in oral skills, was needed" (Hadley, 1993, p. 10). Many historical events led to the creation of the ACTFL Proficiency Guidelines completed in 1982 and revised in 1986. The information presented in these Guidelines coincides with what current research in second language acquisition theory says about the importance of a lengthy sequence of foreign language study in order to become proficient (Ellis 1985, Krashen 1982, McLaughlin 1987). Krashen and Terrell (1983) suggest that those who start second languages as children will usually become more competent than those who begin as adults. However, many students are only completing a

two-year sequence (ACTFL 1996, Ramage 1990). The benefits of an extended sequence of foreign language study are shown in the increase in standardized test results in reading, English vocabulary and college entrance exams as opposed to students with limited or no foreign language study (Cooper 1987, Masciantonio 1977, Morgan 1989). Becoming proficient in a second language takes time, but ultimately there are benefits to society as well as to individuals (ACTFL 1996, Crispell 1997).

Methodology

Subjects

Fourteen professors who teach French, Latin or Spanish at a private, mid-sized, liberal arts university in the Southeast participated in the study by distributing a questionnaire to their students. These professors taught a total of twenty beginning or intermediate level classes. The names of these professors were selected by the researcher's advisor as potential professors to contact. The researcher wanted to collect information about the foreign language experiences, both in high school and in college, from students who studied two years or less of foreign language in high school and then enrolled in the same foreign language in college. In theory, the students enrolled in these classes had minimal foreign language backgrounds and were therefore determined to be a source of information regarding the trend of completing two years of foreign language in high school.

Procedure

The researcher spoke individually with each professor to explain the research project and to ask for his or her assistance in distributing the questionnaire. Each professor received one packet of questionnaires per class, as well as a cover letter from the researcher providing directions and explaining the project. There were, however, three classes in which the researcher distributed and collected the questionnaire instead of the professor. In addition to distributing the questionnaires, the professors were asked to provide names of students who studied two years or less of foreign language in high school and who would be interested in participating in a brief interview with the researcher.

Analysis

The questionnaires were reviewed to determine which students had completed two or less years of foreign language in high school and were taking the same foreign language in college. It was

this group of questionnaires that was analyzed for the purpose of the study. The responses of the students that are a part from this group were individually counted for each question and percentages of the frequency of responses were calculated.

Results

A total of 51, or 17% of the completed surveys, were received from students who had completed two or less years of foreign language in high school and were studying the same foreign language in college. It was this group that was used in determining the results of the study. Ninety-eight percent of the group completed two years of foreign language in high school while only 2% completed one year of foreign language. Demographic information was gathered from the students. The year in which the students completed their high school foreign language study was equally distributed among the last three years of high school. Fifty-seven percent of the students were enrolled in Spanish classes, 28% in French classes and 20% in Latin classes. Ninety percent of the students surveyed were either in their freshman or sophomore year of college.

A number of items on the questionnaire were used to obtain background information about the high school foreign language experiences of the students. Seventy percent of the students received A's in their high school courses and the most popular reason for completing foreign language study was because a requirement was met. Forty- one percent of the students agreed that their high school foreign language classes were beneficial. Eighty-two percent of the students either strongly disagreed or disagreed with the statement that they felt comfortable speaking the language upon completion of high school foreign language classes.

A second group of questions was aimed at looking at the transition to college courses. Sixty-five percent of the students strongly disagreed or disagreed that their high school foreign language program prepared them well for their college foreign language program. Seventy-nine percent of the students strongly disagreed or disagreed that they are repeating what they studied in high school. With regard to placement in college courses, 71% strongly agreed or agreed that their placement was correct. Lastly, 63% of the students feel inadequately prepared for their foreign language classes in college while 0% of the students feel overly prepared for their foreign language classes in college.

The last subset of questions was asked in order to make recommendations about foreign language curriculums. Based on the experiences of the students in college foreign language classes, 89% strongly agreed or agreed that they would encourage current high school students to take more years of foreign language than they completed (which in 98% of the cases was two years and in 2% of the cases was one year). Based on their college experiences, 82% of the students strongly agreed or agreed that they would have liked to have completed more years of foreign language in high school than they did. Sixty-seven percent strongly agreed or agreed that speaking a foreign language will benefit them in the future. Lastly, 47% of the students indicated that their high school academic advisor suggested they complete the minimum number of foreign language courses required while 22% responded that their counselor encouraged them to complete as many years of foreign language as possible.

Conclusion

Based on what we know about second language acquisition theory (Ellis 1985, McLaughlin 1987, Krashen 1983) and the benefits of extended foreign language study (Cooper 1987, Masciantonio 1977, Morgan 1989), an extended sequence of study should be important to students studying foreign language. By examining the responses from the students who completed two years or less of foreign language in high school, it is clear that the students do not feel prepared for their foreign language classes at the university level. The students' feelings of not being well prepared after a short sequence of study is confirmed by professors teaching students in this situation (M.L. Redmond and M.T. Sanhueza, personal interviews, December 3, 1997).

The information gathered from the students who studied two years or less of foreign language in high school gives important information to consider. First, students did not realize they were unprepared until they entered the university program. Statements in the free response section of the questionnaire as well as the personal interviews confirm the information received through the questionnaire regarding feelings of being unprepared. For students, the illusion exists that high grades equal foreign language proficiency.

The trend toward a two-year sequence (ACTFL 1996, Ramage 1990) is shown with this group of students. While many of these students are taking foreign language to meet a high school or college requirement, it also appears many students take two years because their high

school academic advisors suggest taking a short sequence of foreign language study. Students believe that a foreign language may benefit them in the future, such as with employment (Cripsell 1997), yet they still take a short sequence.

It is evident that high school programs of two years are not preparing students for the university program. The recommendation is to encourage state boards of education to consider changing the requirement and to inform students that two years of foreign language study is not enough time for them to become proficient or be prepared for collegiate level foreign language programs. The students surveyed and interviewed would want current high school students to complete more years of foreign language. Telling the students how many contact hours they need with the language in order to be able to use the language to speak, read, write or listen with understanding may be one approach. In addition, informing high school academic advisors as the to benefits of foreign language study is extremely important. With increased knowledge on the part of students, academic advisors and school boards, the future of foreign language education will be even brighter.

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Enhancing Social Studies Learning: What Students Prefer

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December, 1997

Introduction

It is often acknowledged by both secondary teachers and students that the social studies (geography, history, civics, economics and sociology) are dull and boring. As subjects, they seem to have little relevance to high school students who have rarely traveled or experienced economics, who have not participated in the political system, and who have not experienced supply and demand. For teachers social studies content often leads to lecture, textbook reading and recitation of facts. What methods are the most effective in securing the attention of high school social studies students? What methods entice them to pay attention, and more importantly, learn the core concepts of social studies? What is it that experienced, successful teachers of social studies do to motivate and captivate their students?

Review of Literature

Diem has reported that integrated and non-traditional methods of teaching and learning are effective in stirring student interest and improving grades (1996). Asking students to study sections of history in-depth by assuming historical identities (researched role-play), asking situational questions ('What if you were he?) and reliving the period (through readings, video, cultural exploration of food, costume, music and art) can enhance interest and increase student involvement. Increased involvement will lead to enhanced learning (Bilof, 1996). Use of critical analysis, non-standard material and original sources also generates interest (Fling, 1994, Epstein, 1994). Other non-traditional methods such as group work, present challenges for teachers and students; a classroom structure which assigns roles (note-taker, presenter, researcher) strengthens

the learning experience and spreads the workload more evenly (Deardoff, 1996; Gardner, 1996; Vermette, 1994; Sullivan, 1996; King, 1993). Finally, Hootstein found that the more students are involved and engaged in activities, subject matter and questioning, the more they are stimulated, interested and ultimately motivated to learn (1995).

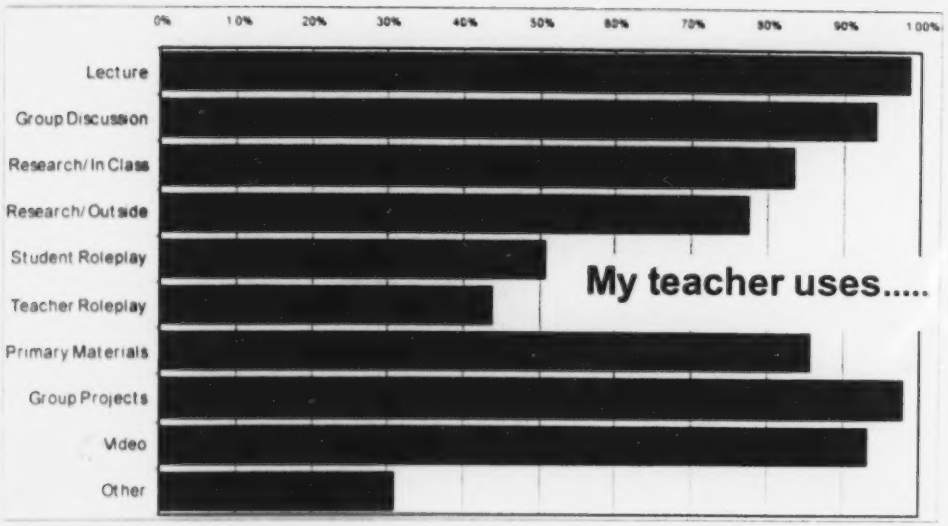
Methodology

Subjects were selected at random from three local public high schools. All students were enrolled in World Geography, United States History, and World History. A variety of grade levels were represented, as well as a mixture of standard and honors classes. A total of 132 students from six classes completed the survey.

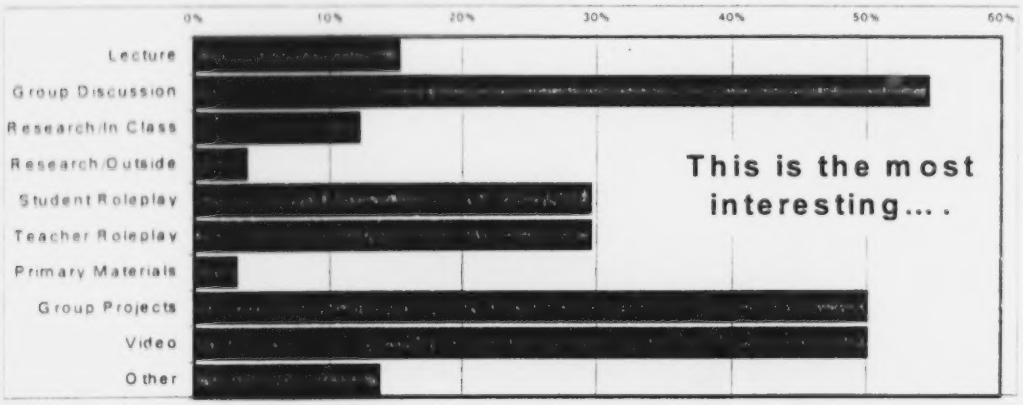
The research procedures used observation to identify specific techniques the teachers used during the course of a lesson. Students and their parents received an informed consent notice which described the study and indicated that data would be collected during the course of a regular school day. Students were allowed to decline to participate at any time. The questionnaire was administered to collect basic demographic data (class level, subject and school), and to ask students a) what techniques the teacher used during a lesson, b) which techniques the student found most interesting, and c) which technique was most effective in stimulating learning. Space was allowed for comments on the effectiveness of additional techniques. The questionnaire inquired specifically about the following techniques: teacher lecture, group discussion, individual research (both during and outside class), role play (by either teacher or student), use of primary materials, group projects, and video presentations.

Results and Conclusions

As illustrated in the graph ***My teacher uses…***, a variety of teaching techniques are used by the experienced teachers. In fact, respondents indicated that on average five different techniques were used in a fifty minute class period. Teacher role-play was used the least often, although within two of the six classes, it was used regularly. Other techniques used included sharing of ethnic food, wearing of ethnic or cultural dress, topic specific music, guest speakers, and even participation in exercises or activities appropriate to the lesson, such as Tai Chi.



Students overwhelmingly found some types of activities more interesting. They indicated a preference for group discussion, group projects and video presentation. Comments such as "[Videos allow me] to watch movies so we can see things in reality" substantiate and reinforce the idea that used effectively video material is helpful and interesting to students.



The primary question is what **can** social studies teachers do to increase learning, and the actual retention of useful knowledge. 'Being interested' is not enough. Students reported that a variety of techniques help them learn, most importantly lecture, group discussion, and group

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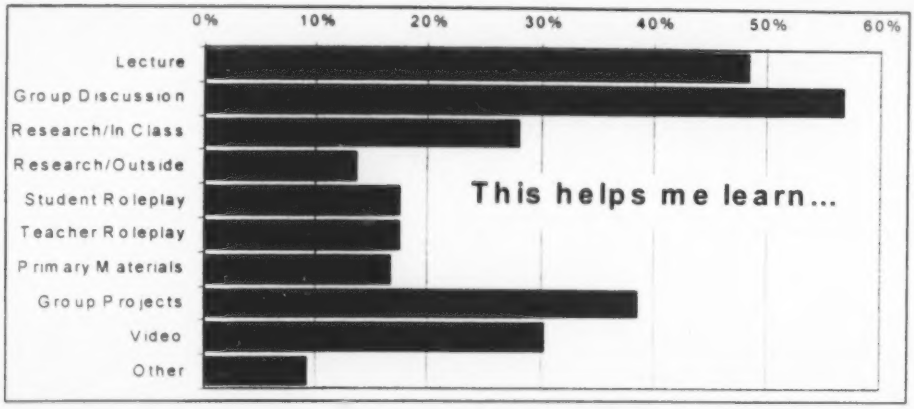
projects. However, all types of activities had some support. One might conclude that this reflects not only the individual student interest and inclination, but individual learning styles as well. Outside research received the least support and this fact probably reflects student distaste for homework.



The data suggests that it is not just a variety of techniques, or a particular technique that enthrall students in social studies. It is the enthusiasm of the teacher for her subject matter, the emotion and effectiveness with which she reaches into the past (or different other culture) and the encouragement she provides the students. Student comments like:

"Our teacher pushes us to go past our self-imposed abilities to do the best that we can;"

"He makes things easy to understand by giving life examples and relating it to now;"

"By always expecting your best, and staisfying [sic] for less than that. By being so passionate and genuine interested in what he teaches;"

"..she uses drama and emotion in teachers, which gives me an initiative to learn;"

"He has gusto;"

"She gives awards for highest grades, she lets us do something fun after we have finished hard lessons, and she always has different and outrageous things for us to do, fun things that most teachers wouldn't do;"

are representative of the enthusiasm and encouragement that students cited as motivating.

In conclusion, student needs and preferences are closely related. And motivation is more than just interesting material. A variety of techniques speak to a variety of learning styles. The emotion and enthusiasm of the teacher, and the dynamics of fruitful interaction enhance and

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support the teaching and learning of social studies. A vast majority of these techniques are available to every social studies teachers. It is using the techniques that interests and motivates the high school social studies student.

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The Role of Current Events in the Social Studies:
An Assessment of Student Attitudes and Lesson Composition

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Introduction

Educational research on current events in the social studies has traditionally concentrated on the assessment of methods of application. With the proliferation of technology in schools during the past decade, researchers have had an entirely unprecedented realm to explore. A number of studies have examined either educational technology or traditional methods. Common foci among these studies are student attitudes, motivation, and extra-curricular news-seeking behaviors. The aim of this research project is to combine the critical elements of previous research studies. Specifically, the purpose of this study is to assess the actual role of current events in the secondary social studies. The first portion of the study (Part A) involved 25 hours of observation (5 classes, 5 hours in each), during which the researcher documented the amount of class time devoted to the discussion of current events. The second portion of the study is based on the results of a questionnaire that sought to gauge student attitudes toward current events in the social studies.

Review of Literature

A differentiation must be made between studies that assess student attitudes toward current events and those that gauge student attitudes toward methods or technology used in instruction. A substantial portion of the educational research on current events aims to satisfy questions that concern the latter. Researchers stress the value of current events in terms of how they encourage citizenship education, and the discussion of multi-cultural issues, gender issues, international diplomacy and other crucial elements of social studies curricula. Student interest

and positive student attitudes toward the subject matter are critical components of a positive learning experience with current events.

Linnenbrook and Anderman (1995) analyzed student motivation and the value that students place on current events in an academic environment. The results of the study indicated that "the general trend which emerges is that students who *read* the news at home generally report higher levels of motivation and knowledge."(7) The statistics demonstrated that students who *read* current events outside of school, unlike students who *watch* the television news in or out of school, were the most proficient and had the highest levels of motivation.

In a similar study entitled *Motivational influences on adolescents' current events knowledge*, Anderman and Johnston (1994) administered a current events test and a motivational inventory to a sample of 1148 students. The findings indicated that, among both middle and high school students, "students with higher GPAs are more likely to seek news at home, to be self-efficacious, and to know more news stories."(7)

Tiene and Whitmore (1995) conducted a study of the Channel One in-class news program. The study found that one determinant of student attitudes is the context in which the students view the program. Additionally, 45 percent of the students agreed with the statement, "viewing Channel One has made me more interested in what is happening throughout the United States and the world."(160) Barrett (1995), however, observed that students paid attention to Channel One only when they knew they were to be tested. Many of the students interviewed reported that Channel One had "superficial and simplistic coverage."(20)

Nasstrom and Gierok (1996) conducted a comparative study of the CNN Newsroom and Channel One in-class current events programs. The results demonstrated that students who watch CNN Newsroom reflect a more positive attitude towards current events than those who watch Channel One.

Methodology

The research was conducted in two parts. Part A entailed 25 hours of classroom observation conducted by a single researcher. The researcher was not a participant in any of the five classes observed. (5 hours in each class) Part B focused on the administration of a questionnaire, designed by the researcher, that sought to assess student attitudes toward current events in the social studies.

Five (5) secondary social studies classes, in three Winston-Salem/Forsyth County high schools, were chosen as the subjects for the observational portion of the study (Part A). Neither the teacher nor any of the students were informed about the content of the observational portion of the study.

The researcher observed 5 class periods per each of the 5 classes observed. Each class was observed Monday through Friday, each day for 50 minutes (one class period). The researcher spent 250 minutes of observation in each class. At the end of each class observation period (5 days, 5 classes) the time increments recorded on the data sheet were compiled and totaled. The total amount of time was then converted into a percent total of the 250 minutes observed in each class.

A nine-item questionnaire was administered to 118 secondary social studies students (Part B). The questionnaire consisted of a five-item semantic differential scale and four "yes/no" questions. The spaces between the adjectives on the semantic differential scale were assigned values between (–3) and (+3). The percentages of "yes" and "no" responses were compiled for the four remaining questions.

Results, Discussion, Conclusion

The observation totals ranged from as little as less than one percent (0.59%) to nearly six percent (5.93%) of the 250 minutes observed that were spent on current events. The totals were; Class 1(5.48%), Class 2(5.93%), Class 3(1.78), Class 4(0.59%), and Class 5(5.75%).

The percentages were very low in all cases. Only two of the classes observed had a prescribed time during the week for a current events quiz and discussion (Class 1, and Class 2). The fact that a mandatory time was set aside for current events is reflected in the percentages (5.48%, and 5.93%). Class 5 (5.75%) scored approximately the same as Class 1 (5.48%) and Class 2 (5.93%). An interesting note is that Class 5 did not have a specific time allotted for current event activities or discussions. The increments of time devoted to current events were a result of spontaneous references, comments and questions initiated by both the students and the instructor. Students were encouraged to share their comments and interpretations on current events and issues when they arose in Class 5.

The student questionnaire concentrated on student attitudes towards current events. The **semantic differential scale** scores (for the sample of 118 students) are featured in **Table A**.

Table A

ADJECTIVE(+)/ADJECTIVE(-)	SCORE
Interesting(+)/Boring(-)	(+) 0.73
Informative(+)/Uninformative(-)	(+) 2.3
Valuable(+)/Pointless(-)	(+) 1.6
Educational(+)/Recreational(-)	(+) 1.7
Student-centered(+)/Teacher-centered(-)	(+) 1.39

Among each of the five adjective pairs, all scores were positive with a range from (+) 0.73 to as high as (+) 2.3. The researcher made the following distinctions among the possible positive value categories; a positive value of (0-1) indicated a "barely positive" attitude, (1-2) indicated a "moderately positive" attitude, and a score of (2-3) indicated a "highly positive" attitude.

After the semantic differential portion of the survey, the subjects were asked to answer four "yes/no" questions. **Table B** displays the questions and the percentage for each response.

Table B

QUESTION	% YES	% NO
1. Is there a designated time devoted to the study of current events in your class?	58%	42%
2. Do class discussions of current events encourage you to seek news outside of school?	51%	49%
3. Does your teacher encourage student discussion and free expression of opinion when current events are brought up in class?	87%	13%
4. Are current events an enjoyable "break" from regular social studies lessons?	75%	25%

In response to question 1, 58 percent of the subjects reported that a certain portion of their social studies class is devoted to current events. 51 percent of the 118 subjects reported that in-class current events encourage them to seek news outside of school. An overwhelming majority (87 percent) of the subjects reported that their instructor encourages student discussion and the open expression of opinions during current event interludes. Precisely three-quarters (75 percent) of the subjects indicated that current event lessons are an enjoyable "break" from regular social studies lessons.

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The findings of this research study plainly indicate that current events are, at best, a minor aspect of the social studies. The semantic differential scale results indicate that a majority of the subjects recognize some merit in the study of current events. The findings of the survey indicate that students largely believe that current events have a high educational value.(highly and moderately positive scores favoring the adjectives "informative", "valuable", and "educational") However, the results also suggest that the subjects only slightly favor the term "interesting" as opposed to "boring" to describe current events.

A number of questions can be extracted from the findings and conclusions of this study. Extensions of this research might address whether students view current events as a "break" or might offer a more intricate look at the "student-centered/teacher-centered" question. Another viable suggestion is to study the attitudes of students who have obligatory current event lessons versus those who do not experience current events on a regular basis. In order to obtain a broader perspective on the "state" of current events in secondary social studies education, one might conduct a multi-district/multi-school observational study similar to Part A of this study. A number of worthy questions remain unanswered in the area of current events in secondary social studies. The question of whether or not current events are or should be a part of social studies curricula is truly important, and is considered a "neglected" issue by many individuals in academia.

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Prereading: What Works?

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Introduction

The purpose of this research is to examine the differences between teacher-directed prereading activities and discovery-oriented prereading activities. Teacher-directed prereading activities refer to activities that include information and hints about the text that are given by the teacher in lecture or discourse. An example of teacher-centered activities would include giving a lecture on the historical context of the novel or giving the students background information on the author. Discovery oriented prereading activities refer to activities that allow the student to make his or her own inferences through interaction with major themes or aspects of the text before they read. An example of this would be to have students read the first sentence of a text and to use it as a prompt in creating a story. This research will attempt to answer three questions: Are prereading strategies used at all in classrooms? If so, which type is used most often? Finally, which of these types provides the most benefits for students?

Review of Literature

Research on prereading activities is as varied and contradictory as the methods used. While many researchers suggest using extensive and creative prereading activities, others suggest brief and focused methods. Still other research articles propose that prereading activities are not as helpful as is commonly thought.

Lenoir (1993) explains that students have preexisting knowledge that extends to all of their life experiences. The idea of using prereading methods to stimulate student interest in text comes from the notion of preexisting knowledge or schema. Kueker explains that pupils' prior knowledge provides the pathway to understanding new ideas and forms the foundations for the

mental set or motivation. For comprehension of the story to take place, the unknown is linked to a foundation of prior knowledge based upon life experiences. She suggests that each prereading activity should include : a mental set that links themes to prior knowledge, background information and key concepts, essential vocabulary, and the story preview which redirects the students' thoughts toward the story to be read.

While Kueker suggests extensive prereading activities for each new text, Rinehart, Barksdale-Ladd, and Paterson (1994) suggest very focused activities that are combined with teacher discussion, called "advance organizers." In this study, students who were given the opportunity to activate prior knowledge using advance organizers and teacher-led discussion performed the highest of three groups on a post-test. The conclusion from these results is that prereading activities work best when teamed with discussion. Denner (1992) supports Rinehart, Barksdale-Ladd, and Paterson's findings with his research on the use of story impressions as a prereading activity. Out of three groups, the one that received story impressions with teacher discussion exhibited the highest level of story recall.

Pate (1995) suggests a completely discovery-oriented approach to prereading strategies using mapping. Teachers only give students a topic and then let them activate prior knowledge by making maps about everything they know concerning the topic. Davis supports his suggestion with his finding in his study on story mapping. He found that the use of story mapping (a discovery-oriented approach) increased students' reading comprehension on both the literal and inferential levels.

Patton (1992) discusses the impact of the lack of prereading activation. He found in his observation that loss of classtime occurred because teachers found it necessary to explain concepts that should have been picked up in reading, but were not because of two reasons: (1) students were not prepared for the reading because their prior knowledge had not been activated (2) students did not read the text because their interest had not been piqued.

Methodology

Subjects

The subjects of this study are teachers and students in the Winston-Salem area. All participating classes are 11th grade English classes that were beginning study of a major piece of literature: novel, play, autobiography. In all, nine classes participated in this research. Classes ranged in ability from standard to honors level.

Procedures

Classes were observed to determine what, if any, prereading activity was used in the introduction of a new piece of literature on the first day of study. Using an observation instrument (Appendix B), classes were observed on the second day of study of the text to determine if students were actively involved in thinking about the work as indicated by discussion. At the end of the period, a brief questionnaire was distributed(Appendix B) to students to gage their response to prereading activities.

Analysis

After observation, each class was divided into three groups: use of discovery-oriented activity, use of teacher-centered activity, and no activity. The questionnaires were also divided into the same groupings and then analyzed to find the percentages of students who gave specific answers to each question.

Results and Conclusions

During the observations, two classes were found to use discover-oriented techniques to introduce literature, four classes were found to use teacher-centered techniques, and three classes were found to use no prereading strategies.

Students in the classes using the discovery-oriented approach to prereading participated in second day discussions more frequently and with more thought than those students in any other group. This points to several conclusions. The first is that students were more interested in the text and were therefore more likely to actually read the assignment. The second is that students in classes A and B brought a greater understanding to the text than those students in other classes and were thus able to formulate more questions. Finally, it points out that students were more actively involved in critical thought while reading because they had been prepared to think critically in the prereading activities.

In question 1 of the survey, approximately the same number of students in the classes using teacher-centered prereading activities and in the classes using discovery-oriented prereading activities said that their teacher often used some type of activity to introduce new literature. The classes that were observed to use no prereading activities reported drastically less use of activities to introduce new literature. The conclusion that can be drawn from this is that the amount of prereading activities used does not correlate with whether teacher-centered activities or discovery-oriented activities are used to introduce literature. However, it does seem

to point out that the teachers who were not observed to use a prereading strategy on the day of observation do not use them as often as the teachers who were observed to use some type.

In question 2 of the survey, far many more of the students in the classes utilizing discovery-oriented prereading activities reported that their teacher's method of introducing new literature often excited their interest in the work. Interestingly, the classes that were seen to have no prereading activities reported that when their teachers did use them their interest was peaked more than those students in the teacher-centered prereading classes. Obviously, it can be inferred that the discovery-oriented activities excite more interest than the activities used by the other two groups.

In question 3, students in the discovery-oriented prereading group answered that their teacher's method of introducing literature often aids them in understanding the assigned text. Interestingly, a higher percentage of students in the no prereading activity group reported that their teacher's method of introduction aided them in understanding than did students in the teacher-centered prereading group. It can be inferred from this data that discovery-oriented activities aid student understanding more than the activities used by the other two groups. It also indicates that students do not feel that teacher-centered activities aid them in understanding as well.

In question 4, a higher percentage of students in the discovery-oriented prereading classes reported that they often felt that their teacher's method of introducing literature had a connection with their grade on final tests or papers. The percentages of answers in the teacher-centered group were almost evenly distributed between often, seldom, and never. An overwhelming majority of students in the no prereading activities groups reported that they seldom felt that there was a connection between the introduction and final grade. The fact that the answers in the teacher-centered groups are so evenly distributed is somewhat confusing. Students do not seem to be as aware of the purpose of the prereading strategies and therefore do not seem to feel that there is a connection. This is also true for the classes that were observed not to have used prereading activities.

Overall, this data seems to make a case for discovery-oriented prereading activities. More students participate in discussion, more students find their interest excited by use of these activities, more students report a better understanding of the text because of this type of prereading activity, and more students report that they feel there is a connection between this

type of activity and their final grade. The fact that students report less use of discovery-oriented activities in their classrooms could be explained by the fact that this type is generally more time consuming and requires more creativity to prepare and carry out. In regard to the teacher-centered approach to prereading activities, this data seems to point out that although it is used more frequently it excites less interest and is less helpful in aiding understanding than discovery-oriented activities.

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Writing Instruction Approaches
in the High School English Classroom and Students' Writing

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Introduction

Teaching writing may be one of the most difficult aspects of the English teacher's role. For many teachers, the writing process is so internalized it is difficult to demonstrate to students how one writes. Oftentimes, then, teachers rely on the traditional forms of writing instruction they are most familiar with, those that provide students with the names and definitions of the final product (i.e., "thesis statement" or "personal narrative essay"), at the expense of insight into the process that gives rise to good writing. In other cases, writing instruction is avoided altogether. Many recent studies have concentrated on writing instruction in the English classroom and researchers generally agree that writing instruction which focuses on the process, rather than the product, of writing is most effective in helping students learn how to write well; however, as is often the case, there is a gap between theory and practice. The purpose of this study is to determine what structures for writing tasks are provided in today's high school English classroom, what purpose they serve, and what sort of writing they inspire.

Review of Literature

The purpose of most student writing is to reveal to the instructor what the students do or do not know (Calkins, 1986). This type of writing usually takes the form of filling in short answers, composing book reports, taking notes or essay exams (Goodland, 1984). In fact, while students spend 44% of classroom time writing, they are engaged in actual composing only 3% of the time (Applebee, Lehr & Auten, 1981).

The dominant method of writing instruction is based on the philosophy that writing is made up of skills that can be isolated, studied and utilized. Traditional writing instruction begins with the teacher presenting models of good writing and describing and differentiating the modes

of discourse, as well as diction, punctuation and spelling (Calkins, 1986; Knoblauch & Brannon, 1984). As Knoblauch and Brannon describe it, in their book *Rhetorical Traditions and the Teaching of Writing*:

> Writing is often taught as though it were a mechanical act of selecting prefabricated forms for preconceived content; as though it were nothing but a range of technical skills to be delivered by masters to apprentices through lecture, then memorized and practiced until proficiency is achieved; as though human beings lack verbal competence until teachers provide them with it . . . (Knoblauch & Brannon, 1984)

The "modes" of writing are taught as fixed structures that may be produced with the proper mix of the appropriate elements.

In a traditional writing instruction classroom, students are first presented with rules and examples of how to write and are then left to produce their own writing, usually for immediate (teacher) evaluation. The instructor then uses the evaluations to determine which material he/she should emphasize in the future.

Most educators agree that a process-oriented approach to writing instruction is more beneficial to students than this traditional product-oriented approach. Process-oriented writing instruction provides students with the opportunity to explore their ideas and to develop and revise their writing. Instead of writing for immediate evaluation, they are able to work with a piece for an extended period of time; writing becomes a process that involves revisions and peer reviews. The process-oriented approach seems to improve students' attitudes toward the composition process, as well as their writing ability (McHugh, 1986). Proponents of the process approach believe that students become good writers because they learn that communication of their ideas, not mastery of conventions, is the ultimate goal (Applebee, 1984; Britton, et al., 1975).

Many researchers have sought to determine which qualities of writing instruction most successfully helps students learn to write well. Langer and Applebee (1986) suggest that effective instructional scaffolding (wherein students learn to internalize and appropriate writing skills) needs to meet the following criteria. First, it should give students a sense of ownership, usually by allowing students to select their own topics and explore their personal experiences. Teacher generated assignments like story starters, dittos and textbook exercises tend to not involve students in their own writing. If students write from their experiences and choose topics that appeal to them for one reason or another, they will become more personally invested in their writing. Second, each student must be encouraged and evaluated individually. Assignments and evaluation should be appropriate for the individual student, not simply geared for that students'

grade level. That is, each student has a different level of writing competence and should be evaluated according to his/her own progress and development. Third, instruction must make the structure of the activity clear and be presented in a way that enables students to internalize it. Whatever parameters there are for the writing activity should be explicit. Fourth, the teacher must step out of the role as evaluator and become more of a collaborator.

Calkins (1986) and Graves (1983) believe that the most effective writing instruction strategies are those that prompt students to take risks and generate their own topics, promote prewriting experiences, give them the sense of having a meaningful purpose and audience, and provide assistance throughout the writing process. In the traditional "teach, evaluate, and reteach" model, students are not given the opportunity to take risks -- evaluation is too immediate. As opposed to a traditional classroom, a classroom grounded in modern rhetoric inverts ancient priorities of "correctness," emphasizing instead students' development as writers. Composing, in such a classroom, is seen as a competence developed best and, perhaps, only through use. Drills and analysis keep students from real, meaningful writing (Knoblauch & Brannon, 1984).

Participants

Participants were 40 English students from an average high school in Forsyth County, Winston-Salem, North Carolina. Four classes -- one each of ninth, tenth, eleventh, and twelfth graders -- taught by four different teachers -- were used in this study. Ten students were randomly selected from each class.

Methodology

There were two phases to this study: in-class observations and evaluation of student writing. In the first phase, the researcher systematically observed four high school English classrooms over a period of nine weeks. Classes observed were: ninth and eleventh grade regular English classes, a "sophomore seminar," and a twelfth grade honors English class. Each class was taught by a different teacher. Researcher noted all writing assignments, noting whether they were composition exercises or simple writing tasks. Only observed composition assignments were included in this study; extended composition assignments, such as research projects, that were not completed during the observation period or simple writing task assignments were not included.

Observed composition assignments that participants completed within the observation period were characterized according to a 5-point scale to determine the purpose of the writing exercise. Considerations included: evaluation of assignment (would writing be immediately evaluated or would students be given the opportunity to revise?), topic selection (was topic

generated by the instructor or the students?), clarity of assignment (were parameters of assignment made clear to students?), and type of audience (were students writing for the instructor only, the instructor and peers, or the instructor and some exterior audience?).

The researcher collected samples of student compositions produced in the nine week observation period. All compositions were done as part of the normal classwork. The researcher made photocopies of the writing samples and whited out participants' names to preserve participants' anonymity. Participants in this study are instead identified by identification numbers.

The researcher then analyzed each writing sample according to an analytic grid inspired by Peter Elbow (1993). Participants' writing was evaluated as "Strong," "OK," or "Weak" according to the following five categories: content and insights, genuine revision, organization and structure, language (syntax, sentences, wording, and voice), and mechanics (spelling, grammar, and punctuation). The writing samples were then analyzed a second time, using the same analytic grid, by another evaluator.

After all writing samples had been evaluated twice, the evaluation scores ("Strong" = 3, "OK" = 2, "Weak" = 1) of each assignment were averaged, by evaluator. Finally, both evaluators' scores of each assignment were averaged.

Results

Of the writing assignments considered in this study, 60% were intended for immediate evaluation and 40% afforded students the opportunity to revise. Teachers selected paper topics 100% of the time. The structure of the writing activity was made clear in all writing assignments observed. The intended audience for these assignments was: teacher only (60%), teacher and peers (20%), and some exterior audience (20%).

The writing assignment (Teacher C; Assignment 1) that had the highest combined average score of student writing in all of the four categories was intended for immediate evaluation and a teacher-only audience, had a well-defined structure, and a teacher-generated topic. The next highest scoring writing assignment (Teacher D; Assignment 3) in the categories of content and organization was one in which the teacher selected the topic, the students were given the opportunity to revise their papers, the structure was well defined, and the purported audience was the teacher only. The next highest scoring assignment (Teacher B; Assignment 1) in the language category was similar except that the intended audience was teacher and peers. The second highest scoring assignment (Teacher D; Assignment 2) in the category of mechanics gave students opportunity to revise, had a clear structure and a teacher selected topic, and was intended for a teacher-only audience. The same assignment produced the lowest content and organization scores. The lowest language and mechanics evaluations were for an assignment

(Teacher D; Assignment 1) that was evaluated immediately, had a teacher-selected topic, a clear structure, and an intended audience of the teacher and some exterior audience.

Conclusions

The majority of writing assignments considered in this were evaluated immediately, had a topic selected by the teacher, made the structure of the writing activity clear, and were for teacher only audience. The sample of writing assignments included in this study was small, but observations suggest that most writing assignments in these classrooms share the above qualities. However, many assignments fell outside the scope of this study, assignments that were long-term in nature and offered students the opportunity for revision. A longer term study would probably reveal many more writing assignments that concentrated on revision, one important aspect of the writing process.

The participants from the regular English classes received very few "Strong" evaluations in any of the five categories included in the analytic grid. There was not a big difference between the scores of the ninth grade regular class and the eleventh grade regular class. The eleventh grade students generally received slightly higher evaluations. Ninth grade students did produce writing that was stronger in the content and organization categories for one broad personal narrative assignment that encouraged students to write a story about anything they wanted to, within a certain genre. The participants from the honors tenth grade class received the highest evaluations overall.

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Surveying Students' Opinions About Dissection
And the Influence of Animal Rights Groups
and/or Marketing of Non-animal-tested products

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Introduction

Dissection and the thoughts it provokes has a popular negative connotation that tends to repel people and their interest. Impressionable students are even more expressive about their dislike of dissection. Phrases like "it's gross", "they are innocent animals" and "dissection is the best way to learn anatomy" stem from emotional and sensitive opinions of students.

Most high school students are involved with dissection ranging from earthworms, starfish, frogs, fetal pigs to cats and rabbits. Although they are only part of the dissection controversy, the benefits and costs seem clear. Some benefits may be described as real "hands-on" experience, engaging and interesting labs that involve students, better learning through experience, and a preparation for labs used in college. Some costs may be described as a waste of animal resources, expensive specimens and lab materials, the fact that some students may not go to college and/or use this information, and that some students may object and require an alternative lab. All of these aspects relating to dissection involve decisions and opinions from teachers, students and families.

Communication between students and teachers is always important to create a good learning environment. Because the dissection controversy and debate involves emotional, ethical and educational interests, it is even more important that all opinions be expressed and considered. The students are the people who go to school, attend classes and do the school work. In biology labs, the students will be the ones who will perform the dissections and learn the material. This is why student opinions about dissection should be asked and considered by teachers and educators.

Communication between students and teachers is always important to create a good learning environment. Because the dissection controversy and debate involves emotional, ethical and educational interests, it is even more important that all opinions be expressed and considered.

Student opinions about dissection should be asked and considered by teachers and educators.

Review of Literature

Dissection has been included in biology classrooms since the early 1900s and became an established part of United States high school biology laboratories by the 1920s (Kinzie, 1993). Frog dissection became popular for lab dissections. An estimate of 75-80% of the nations four million biology students in 1988 were dissecting frogs (Kinzie, 1993). More recently, students, teachers, and administrators have been faced with issues dealing with morality and animal use (Kinzie, 1993). The use of alternative methods of dissection in the classroom and their effectiveness has also been discussed (Strauss, 1991 and 1994). The range of alternatives from videotapes to computer-based and IVD (interactive video disk) based simulations have become increasingly more available (Strauss, 1994).

There are a number of groups actively speaking out and debating about the dissection controversy dealing with biomedical research and education. Many educators insist that there is no substitute for the "hands-on" experience that dissection provides; other educators have decided that students do not need to dissect or experiment on animals in order to gain anatomical knowledge (Gilmore, 1991). Offner strongly supports dissection stating that it "provides concrete, hands-on learning experiences with anatomy, one of the most basic of sciences, and that "the alternative to dissection is ignorance" (1993). Offner disagrees with offering dissection only to students who are planning careers in science, and states that dissection is an essential part of a broad biology education (1993). The National Society for Medical Research (NSMR) takes a protective approach for use of animals in laboratories in the United States (Gilmore, 1991). Members of the American Medical Association (AMA) defend dissection referring its absolute necessity for progress in medicine (Riechard, 1993). Both dissection and non-dissection approaches to biology education can cause students to confront their belief systems and values (Gilmore, 1991).

Not only is the general public being affected, but also educators, students and schools. Riechard (1993) says that the target of activist groups opposing dissection is "the nation's elementary and high school classrooms". Activists express objections ranging from opposition to exploitation or killing of animals to the use of any kind of animal for any purpose. The elimination of dissection in elementary and secondary schools is the main objective of the animal rightists' campaign (Riechard, 1993).

Although the numbers of students refusing dissection is small, they are increasing and teachers are in turn having to respond to students' increased concern about animal rights issues and their personal rights. The number of teachers who are rejecting the use of dissection is increasing yearly in response (Gilmore, 1991). "Today's students are becoming more aware of their right to object to dissection and seem more apt to exercise it" (Strauss, 1994).

Gilmore suggests that the ideology known as speciesism may contribute to human-centered thinking about rights and privileges and the use of animals and that support and opposition to the teaching of dissection revolve around speciesism (1991). Speciesism as defined by Gilmore is the tendency not to extend the principle of equality of consideration to members of other species (1991). Information about product testing is given in several locations in the PETA website (PETA, 1997). This website which is full of descriptive and referenced material is completely accessible by any internet user and several pages inside the site are devoted to young readers. PETA suggests alternatives, encourages consumers to purchase "cruelty-free" products that are not tested on animals and provides a list of companies that don't test on animals (1997). This background information suggests that there might be a connection or correlation between influential factors that may be included in the formation of student opinions about animal use, specifically dissection in the science classroom.

Methodology

The subjects of this research study were 28 male and 49 female teenage students enrolled in East Forsyth High School and Mount Tabor High School in Forsyth County. Students in both regular and honor levels biology classes taught by Master Teachers (Janet Crigler and Betsy Crossley) in the Wake Forest University Master Teacher Fellows Program were asked to participate. It was assumed that the majority of the study subjects had already experienced some form of a dissection laboratory or had some background knowledge of what dissection entails. This research involved surveying student opinions and gathering information through a brief, one page questionnaire. This brief questionnaire was developed to survey opinions about dissection, exposure to activist groups, use of non-animal tested products, and any influence these have on their opinions. The cooperating teachers agreed and allowed time for distribution of consent forms one day and administration of the questionnaire another day. Students were informed that they could not participate if they did not return the signed consent form, and that they were not required to participate and would not be penalized. Each period, the researcher explained and administered the questionnaire to participating students and then collected completed forms. This took a maximum of ten minutes per period. The cooperating teachers were very helpful and supportive.

Results and Conclusions

The results of this study are reported in percentages of the total students subjects and as a collection of their written comments. Of the 170 consent forms issued, 77 were signed and returned. This gave a return rate of 45%. Of the 77 total students surveyed, 49 were female and 28 were male. Only 61% of total students answered that they had been involved with any type of in-school dissection. Three students have refused to participate in a dissection lab. Each

commented why they decided to refuse. Students' overall opinions about dissection were divided somewhat evenly. Of the total students, 27.7% agreed, 39% were not sure and 23.3% disagreed with use of dissection in the science classroom. Of the total students, 35.1% answered yes, 42.9% answered no, and 22.0% were not sure about dissection being necessary by students for learning introductory biology. Of the total students, 59.7% answered yes to knowing about animal rights groups. Only two female students answered that they are a member of an animal rights group. Of the total students, 31.2% answered yes to being influenced by information about animal rights from the animal rights groups; 68.8% were not influenced. In response to purchasing products that are not tested on animals or cruelty free, 14.3% answered always, 59.7% answered Sometimes and 26.0% answered never. Of the total students, 24.7% answered yes to their opinions being affected by the marketing of the non-animal-tested products; 75.3% were not affected. As an overall influence on the total students, 7.8% were influenced by activist groups, 2.6% were influenced by marketing of products, 19.5% were influenced by both (activist groups and marketing of products), and 70.3% were influenced by neither.Comparing responses to questions nine and eleven, 13 students (16.9% of total students) answered yes to both questions. These students responded that they were influenced by animal rights groups and marketing of products. Of the students influenced by activist groups, 16.7% agreed, 50% were not sure, and 33.3% disagreed with the use of dissection in the science classroom. Of the students influenced by activist groups, 33.3% answered yes, 66.7% answered no and 0% were not sure about dissection being necessary for learning introductory biology. Of the students influenced by marketing of products, one student agreed and one student disagreed with the use of dissection in the science classroom. Both students also answered no about dissection being necessary for learning introductory biology. Of the students influenced by both activist groups and marketing of products, 20% agreed, 40% were not sure and 40% disagreed with the use of dissection in the science classroom. Of the students influenced by both, 26.7% answered yes, 60.0% answered no, and 13.3% were not sure about dissection being necessary for learning introductory biology.

Even though the return rate was 45%, the students who returned their signed consent forms were the only students allowed to participate. The limitation of participants from each class could have skewed or biased the data. Not every student from each class was able to answer the questionnaire. This created an uneven distribution of students. More female students returned their signed consent forms than males. This uneven gender distribution may also affect the data. It was assumed that all students would have some sort of experience with dissection in school, but 39% said no. These responses from these students were counted and used along with the other data. Considering these affects on the end results, the best results to analyze are the overall opinions about dissection (#5), the opinions about dissection being necessary for learning

introductory biology (#6), and overall influences (#12).

The students who were influenced by activist groups were mostly not sure (50%) about the use of dissection in the science classroom. These students responded mostly (66.7%) that dissection is not necessary for learning introductory biology. Of the two students who were influenced by marketing of products one agreed and one disagreed with the use of dissection. Both responded that dissection is not necessary for learning introductory biology. The students who were influenced by both were mostly not sure (40%) or disagreed (40%) about use of dissection. These students responded mostly (60%) that dissection is not necessary for learning introductory biology. Overall, the students influenced in any way were mostly not sure about the use of dissection and responded that dissection is not necessary for learning introductory biology.

The written comments made by the students are interesting to read. Students have and express different perceived ideas about dissection. They express opinions about morality and being "nice". Some students had never considered the influences of animal rights groups or marketing of non-animal-tested products. Students express what they think is okay and what is wrong. The knowledge that students have about dissection and alternatives available is apparent. Students must have learned these things from somewhere. Some students express strong opinions about seeing no problem with dissection or the use of animals. Some students express no opinions at all.

Further studies could look at student opinions about dissection and comparing responses from females and males. There are many influences that could be asked: religion, morals, vegetarianism, veganism, uses of animals in farms or circuses, family, peers, and care of pets. Students may respond differently to these influences.

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The Effects of Race and Gender on Students' Perception of Social Studies

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Introduction

There once existed an atmosphere where historically the humanities and the social sciences blended together in the social studies classroom. Unfortunately, current research has shown that students of nearly all grade levels consider social studies one of their least favorite subjects in the curriculum. And according to Frasier (1981), the negative attitude students have towards social studies intensifies as they get older. A lot of students feel that social studies is a waste of their time or the classes are too easy and will not help them in the real world. The students feel alienated and teachers are frustrated from trying to find new ways to motivate students. Many researchers feel that this attitude has been fostered by a combination of external factors including the breakdown of the family, a loss of a real sense of community, television and simply living in a society that is constantly changing.

This study will look at the discipline itself to determine if what we call the social studies has grouped too many subjects into one class to be taught effectively. Also, I will examine the changes in our society that may affect the negative attitudes such as multiculturalism and women's history.

Review of Literature

Many researchers have concluded that social studies is an endangered subject on the verge of being dropped from the curriculum. Spencer and Barth (1991) suggest that students

don't hold the social studies in high regard because they fail to see any real connection between what happens in the classroom and their daily lives. The researchers argue that social studies is not interesting because it doesn't allow students to become active participants or assume leadership roles. According to Ronald VanSickle (1990), it is because of this lack of a perceived link between social studies and their future aspirations that students don't have any motivation to learn and appreciate the social sciences. Schug, Todd and Beery (1984) argue that social studies has not kept pace with the technological advances of the rapidly changing world in the information age. These researchers suggest that teachers have not done a good job of communicating the importance of social studies and its value to their students. Since social studies is not seen as a contributor to their anticipated career occupations, the subject is no longer a priority, thus it becomes less important.

In a recent study comparing student attitudes towards social studies, math and English, Gobble and Litcher (1995) found that students were more interested in making good grades than in learning the material, and that they did not see a link between social studies and their future. The issue of multiculturalism is perhaps the most overlooked issue being addressed in the changing social studies classroom. Margaret Crocco (1997) says that women represent half of the world's population but their "stories are often marginalized if not omitted entirely when world or American history is taught in the nation's classrooms." Like women, blacks have also been socially oppressed. However, along with social oppression researchers found that blacks have been belittled, stereotyped, and even ignored completely in cultural images. (Pescosolido, Grauerholz, and Milkie, 1997)

Based on the previous research findings, my research focuses on answering two questions: (1) Is the social studies instruction superficial? and (2) Are students alienated because they feel left out of history?

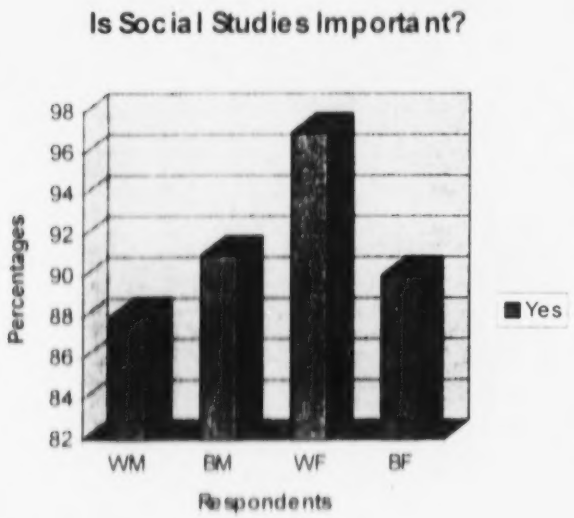
Methodology

The participants in this study were students enrolled in four nonrandomly chosen social studies classes at two suburban North Carolina high schools. Three classes were honors world history and one regular United States history class. A total of 84 responses were analyzed for this study. Each participant in the classes were asked to complete a questionnaire consisting of nine closed-ended questions which were answered on a two-point Likert scale which asked students to answer yes or no. Two of the questions also allowed for open-ended responses. The majority

of respondents were freshmen or juniors however some classes had a few seniors and sophomores. All students regardless of their grade level took the same questionnaires.

Results

The survey data were first analyzed across the board to see if students valued their social studies classes. Table 1 shows that an overwhelming majority of students (92%) thought that social studies was important. Both male and females, and black and white respondents indicated that social studies was an important course.



The results of Table 2 shows that the majority of students also think that it is necessary for social studies classes to teach the importance of women and nonwhites while there were obvious differences across racial lines. All of the black males (100%) said teaching about women and nonwhites was important compared to only 66 percent of white males.

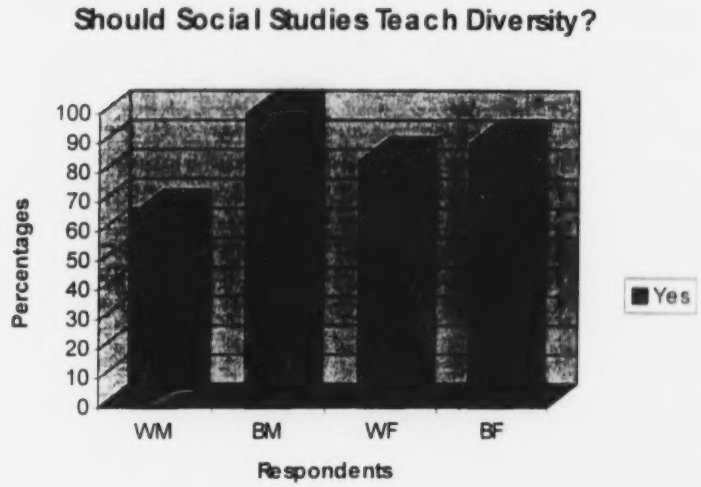
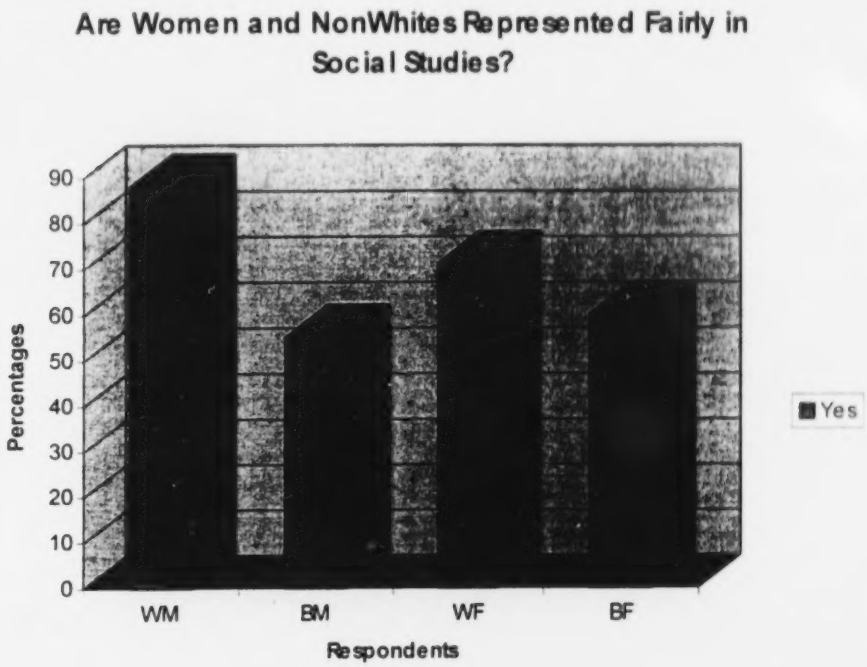


Table 3 shows that most of the students think so, but there are again mostly racial differences. White males mostly stand alone with 88 percent responding positive to the question. An independent t-test shows a significant difference (p= .022) between the students' perception of whether women and nonwhites were being represented fairly in social studies.



Responses to the other questions suggest that most of the students (76%) thought that social studies should include more than history. The majority of students (68%) feel that social studies is a relatively easy course, but only a slim majority (57%) said they would take social studies if it were optional. As expected, the primary reason for the majority of students is that they feel it is totally unrelated to their future careers.

Conclusion

In reviewing the results of the study, I found some interesting observations. The majority of students felt that social studies is important but few would take social studies if it were an optional course. As expected, students' perceptions clearly differ between whether they feel it is necessary for social studies classes to teach the importance of women and nonwhites. It was also expected that the perception of whether women and nonwhites are represented fairly in social studies would produce statistically significant results. I was somewhat surprised that most students felt that social studies should not just focus on history only. Also surprising, was the number of students who said social studies was hard. It appears that social studies is not superficial because the majority of people feel that it is an important subject. Also, students think that there needs to be more emphasis on the contributions of women and nonwhites.

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Facing the Hurdles: Perspectives of First-Year Mathematics Teachers

by

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Beginning teachers face many hurdles in successfully completing their first year of teaching. In many cases, they enter the classroom with romantic attitudes and unrealistic expectations. The first year may be successful and rewarding, or in other cases, painful, frustrating, and terminal (Compton, p. 23).

Introduction

Beginning mathematics teachers encounter many aspects of teaching that they may or may not expect. Even though most teachers participate in some type of teacher training program, including educational courses and practice student teaching experiences, these programs prepare prospective teachers differently. Beginning teachers may have to dedicate large amounts of time to organize and prepare themselves to accomplish the daily tasks of being teachers. The purpose of this study will be to examine four aspects of the teaching environment (lesson planning, disciplinary procedures, paperwork, and time management) which are seen as hurdles for beginning teachers and how these aspects are being dealt with in the daily routine of first-year mathematics teachers.

Review of Literature

Vast amounts of research have been conducted regarding the professional development of teachers. When the National Council of Teachers of Mathematics published the *Professional Standards for Teaching Mathematics* in 1991, teacher education and professional development programs were able to use these guidelines to formulate a framework for all mathematics educators. Recent handbooks for beginning teachers have also been published (Dean, 1996; Dill, 1990; Trimble, 1990) which address perspectives of teaching in the 1990's classroom, but

generally, there is little research which could really help a prospective teacher understand the environment they will face each day. Adams and Krockover (1997) recently explored beginning science and mathematics teachers' perceptions and identified some of their concerns and the pre-service education program's effectiveness in their teacher preparation. They found that "new teachers are concerned with job assignments, curriculum development, time management, discipline/classroom management, and presentation of content" (p. 29, 37). These concerns are perceived as "hurdles" for today's beginning teachers and are commonly found as concerns in related research.

Perceived problems such as planning and classroom management, which are associated with first year teachers, have been studied extensively (Veenman, 1984). In fact, Veenman's study documents that beginning teachers are often so pre-occupied with perceived problems of discipline and management concerns that they focus on little else. "Out of every 100 teachers who begin their careers in September, 15 will leave teaching within one year. In less than 7 years, between 40 and 50 percent will leave the profession, including the most academically talented teachers" (Smith, p. 120). This indicates that there is a definite need for any research that will help retain new teachers in the profession.

Methodology

Six first-year mathematics teachers in the Winston-Salem, North Carolina area participated in the study. Four teach in public high schools, one in a private college preparatory school, and one in a charter middle school. Five have an undergraduate degree in pure mathematics and one in mathematics education. Three earned a teaching license as undergraduates, two are currently pursuing a master's degree in education and one has completed a masters of education program.

An interview guide was developed by the researcher to obtain the teacher demographic information as well as address the research questions. The interview consisted of four questions, which pertained to each perceived "hurdle" in the teaching environment: lesson planning, disciplinary procedures, paperwork and time management

Analysis of Data

Lesson Planning

Lesson planning can be a hurdle for beginning teachers if they are experiencing factors such as teaching courses they have little experience with or have courses where the students are

working at a variety of ability levels. Meeting the needs of all students in a class can create problems for any teacher. Overall, lesson planning does not seem to be a hurdle among the six subjects in this study. No one ranked planning as their primary hurdle simply for the fact that most of them are receiving guidance and/or help from their departments.

- As a department--we are tight--and we help each other all the time. We each teach the same thing, every day; we use the same worksheets and tests, and although sometimes I feel the pressure to keep up, that's okay (T6).
- My staff is phenomenal. My mentor shares all of her worksheets, quizzes, and tests with me. Essentially all of my planning is just preparing the actual lesson since all of the other material is given to me (T4).

When each participant was asked if they felt that his or her teacher education program adequately prepared them for lesson planning, all six indicated that their student teaching experience was the most helpful. T2 made references to her mathematics methods class collecting teaching ideas and creating activity files. T4 and T6 also referenced their methods classes, but went on to add that they wish they had learned more "specifics".

Disciplinary Procedures

None of the beginning teachers felt that they were having serious problems with discipline, but talking was mentioned as a minor problem for all. T6 presented a very confident attitude when disciplinary procedures were discussed. She stated that the orientation for new teachers before school started was very helpful in knowing what actions to take and when, but she really stressed that her teacher education program was instrumental in her discipline ability.

- Discipline was the focus of so many courses we took…examples include assertive discipline and discipline with dignity…We were presented with many ideas and allowed to pick and choose what works best for us individually (T6).

Other participants who ranked disciplinary procedures as their number one hurdle include T1, T4, and T5. Both T4 and T5 implied that their inexperience in disciplinary procedures is what has created problems for them thus far this year. They both stated that during their student teaching experiences, a discipline plan was already established and so they did not realize the importance of explaining expectations at the beginning of the school year.

All of the beginning teachers seem to understand their perceived problems with discipline and have an idea of what they will do the next time they receive a new group of students. When asked if they felt that their teacher education program adequately prepared them for discipline,

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T5 and T6 stated that they had received some instruction as undergraduates, but the other four all felt that no, they did not feel that they were prepared.

Paperwork

Paperwork was not perceived as a hurdle by any of the participants except for T6. T1 and T3 stated that they rarely take work home because they are able to complete all of their work at school. They use their planning time wisely and are productive during that time to accomplish all of their grading as well as planning. All of the beginning teachers agreed that paperwork was very time consuming, but as long as one did not fall behind, then it was not a hurdle.

Each of the six beginning teachers understand that paperwork is an important part of a teacher's job and all of the grading, photocopying, test/worksheet design, progress reports, and report cards have to be completed in a timely fashion. Each has had to seek help from a mentor or another teacher for insight and information on completing progress reports and report cards. All did imply that they are improving with their ability to finish their work in shorter amounts of time and that using the computer grading program, Integrade ©, has helped. There were also mixed feelings regarding the teacher education programs preparing them for the paperwork aspect of teaching. T3 felt that his teacher education program was designed to really help with the paperwork. "All of the busy work that we had to do during our (teacher education) classes really developed paperwork and time management skills" (T3). Overall, all beginning teachers seem to feel that they are improving with paperwork skills and the paperwork aspect of teaching is becoming less of a hurdle with experience and time.

Time Management

Most of the participants indicated they are succeeding fairly well in their time management skills outside of the classroom:

- In the beginning, I was school, school, school, and now I bring home very little (T4).
- My philosophy is to get it done at school. I don't take work home. That might be selfish of me, but it is working for me. If I don't get it done at school, then I will get it done the next day (T1).

All six of the study participants indicated that time management skills are something that one simply learns and that the entire college career contributes to these skills. The responses of the participants indicate that time management is a skill and with that skill, things are easier both in and out of the classroom.

Conclusions

This study examined four hurdles, which the researcher perceived as problematic for beginning teachers. The findings are surprising and probably unique. All six of the beginning teachers seem to be succeeding fairly well in their positions.

Discipline does stand out as the one aspect most beginning teachers were having trouble with at this point in the semester. This aspect was also found to be the biggest problem area for new teachers by Veenman (1984). The surprising fact is that they all indicated that things would continue to improve for them with experience. This optimism should be encouraging to prospective teachers reading this study.

Time management and paperwork were similarly rated among the six first year teachers. The teachers stressed that time management skills were very important when it came to completing paperwork and lesson planning. There were few indications that teachers lacked preparation after completing their teacher education programs. The final aspect explored by the researcher was lesson planning. None of the participants indicated that this was a major hurdle for them nor that they needed significant help.

In conclusion, these six first year teachers seem to be adjusting to the career and readily meeting it's demands. They realize that there are areas of weakness for them, but they are accomplishing what they can each day. They seem satisfied with the education preparation they received and are now building upon the foundation laid by their teacher education programs. Their job satisfaction seems to indicate that they will not join the ranks of the rampant attrition of today's new teachers.

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Testing What You Teach: Speaking Skills in the Foreign Language Classroom

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INTRODUCTION

With the advent in 1984 of the American Council of Teachers of Foreign Languages (ACTFL) Proficiency Guidelines and the renewed emphasis in American education on cooperative learning and improved thinking skills, foreign language educators in the 1980s and 90s have focussed on increased oral production and small group work in the foreign language classroom (Robison 1992). While teachers have developed classroom strategies to encourage student communication and cooperation to solve problems using the target language, their assessment methods do not always "test what they teach". Indeed, students gauge what is important in a class by the material on which they are tested. When teachers use communicative techniques in the classroom but traditional pencil and paper tests, students get the message that speaking is not important (Robison 1992). In a quest to be "pedagogically fair" (Pino 487), then, foreign language educators have proposed several possible formats for testing students' speaking skills.

REVIEW OF LITERATURE

ACTFL's measurement of speaking ability, the Oral Proficiency Interview (OPI), has limited effectiveness in typical secondary foreign language classes. The OPI's drawbacks include time and training required for test administration, its focus on only one aspect of spoken language (interviews), teacher- rather than student-initiated and controlled exchanges, as well as its orientation toward proficiency rather than achievement of course goals (Shohamy 1990, Newsham 1989, Mitchell 1985, Haggstrom 1994). This last shortcoming of the OPI has led some researchers to distinguish between two types of oral tests: proficiency (an acquired competence in the language)

and achievement (acquisition of specific linguistic features associated with a particular course of instruction) (Larson 1984). These can be combined into a "prochievement" test (Pino 1989, Robison 1992), allowing students to demonstrate their achievement of specific material while requiring them to apply what they've learned in the target language to real-life situations.
Most established pair/group oral test formats have several drawbacks. In the interest of accuracy and impartiality, teachers may want to record students' speech production-- although the idea of one teacher listening to as many as 70 or 80 5-or 10-minute exams is highly impractical (Robison 1992). In addition, students tend to take a backseat when their teachers are involved, waiting for teachers to direct the course of a dialogue. They may also be excessively concerned with their teacher's reaction, sometimes even pausing when he makes a notation (Haggstrom 1994). Strong students paired with weaker students may not be able to show their full competence, and if they are given the assignment ahead of time, students may be tempted to memorize their parts, such that no authentic communication takes place during the exam.

New alternatives to these established test formats include the "semi-direct" method Larson 1984), a language-lab, tape-based exam, and videotaping students engaging in communicative classroom activities Haggstrom (1994). Proponents of each kind of oral assessment format emphasize the importance of communicating grading criteria to students before the test, and using concise grading rubrics to provide feedback and accountability. Without firm grading practices, teachers tend to use the "class participation" grade as a catch-all to account for oral production in addition to behavior, attitude and attendance (Duncan 1987).

METHODOLOGY

In an attempt to gauge how "real-life" secondary foreign language classroom teachers (rather than university teacher-researchers) test their students' speaking skills, classroom observations and teacher interviews were conducted with two experienced foreign language educators. These teachers teach French levels one through four, in classes ranging in size from nine to twenty-eight students, in Piedmont, North Carolina public high schools. Notes and descriptions of all instances of oral work in the classroom, from whole-class grammar exercises to individual oral reports, were kept in a dated journal. These observations, a total of approximately 30 classroom hours, yielded many observable approaches to informal classroom assessment of speaking skills while raising some questions about grading and more formal testing approaches. These questions were explored

in hour-long interviews with each subject. Interview questions were composed based on observations and a review of the pertinent literature.

RESULTS

I. Classroom teaching is classroom assessment.

Foreign language teachers do not confine their assessment of students' speaking ability to formal testing situations. Classroom observations and teacher interviews both showed teachers using myriad day-to-day strategies to measure their students' general proficiency, and especially their mastery of targeted structures. Teachers were observed using whole-class question-and-answer strategies both to test general listening comprehension and speaking ability and to test mastery of targeted grammatical structures. In addition to whole-class question-and-answer sessions, teachers used several other forms of classroom activity designed to measure student speaking ability, including homework assignments where students recorded a reading passage on audio tape (focussing on pronunciation, intonation, and fluency), and proficiency- and mastery-based pair and group work. The challenge for teachers is how to grade and give feedback on these classroom activities.

II. Obstacles to formal assessment.

Despite their use of two forms of formal oral assessment, individual interviews and oral reports, teachers report some frustration regarding formal assessment of students' speaking skills. Teachers found that students tended to memorize answers to interview questions, resulting in their inability to respond when the interviewer deviated from the exact words and order of the planned topic. Oral reports, too, are not communicative activities: students tend to memorize their speech or read from their notes, often simply reciting their presentations. In the case of whole class question-and-answer drills, teachers find it difficult to keep all students on task when only one is answering a question at any given time. In classes with as many as 28 students, teachers report the impossibility of allowing each student to speak even once in a 50-minute period. Traditional formal assessment proves even more difficult, as the variation in students' abilities and maturity levels make it difficult to keep the rest of the class fruitfully occupied while conducting interviews with only two or three students at one time. Teachers reported difficulty assigning any grade other than credit for participation or a holistic, subjective letter grade.

III. Oral assessment and the class participation grade.

Teachers do not report using the class participation grade as a "catch-all" grade, although they do express some frustration with the inaccuracy of their record-keeping in terms of grades for the less formal classroom speaking activities. This study did not at first take into account the importance of teaching intangibles like responsibility, proper behavior, and study skills as a part of every secondary class; foreign language teachers allow some opportunities for extra credit to reflect these matters, rather than including them under the aegis of class participation.

RECOMMENDATIONS

I. Speaking tests should be diagnostic.

Oral assessment should provide feedback not only to students on their progress, but to teachers and even school systems on their successes and failures. Testing should not end with a grade, but should become a cycle of re-teaching, re-learning, and repair. Thus ongoing classroom assessment, when paired with practical feedback and suggestions for improvement, is one valid form of measuring students speaking skills and ensuring that the course of study is effective.

II. Formal speaking exams should test only a sample of the universe of tasks.

The tendency in both written and oral exams is often for teachers to try to test students on every rule and exception in the material being tested. In oral exams, this tendency may lead to mastery-oriented activities which cannot measure students' proficiency or communication strategies. If teachers test "small and often" (Robison 1992), they can be sure that, in time, they will arrive not only at a fair assessment of students' speaking ability, but also a detailed record of a student's progress over time.

III. Practical plans for administering speaking tests to large classes.

Secondary foreign language teachers may not engage in much formal oral testing because of time and space constraints, but with some practice, they can evolve a practical system which, when used often, will provide fair and accurate data for grading and gauging students' mastery and proficiency in the target language. With some practice and discipline, 24 students can be tested and graded in 25 minutes, allowing seven minutes for explaining test administration procedures and

scoring, and limiting six teams of four to three minutes each. Students play roles in a situation announced at the start of class, e.g. usher and theatergoers, salesperson and shoppers. The teacher uses an individual score sheet to rate the speech production of each team member according to two or three criteria (pronunciation, hesitation, targeted vocabulary, etc.). Teams "on-deck" are kept occupied by practicing while other teams are tested. The exams may be taped, although this would require at least twice as much time, as the teacher would have to listen to the same communication twice. The immediate and objective feedback students receive should help them improve targeted components of language production.

As one of the "four skills," it is important that speaking be tested objectively and weighted appropriately with written exams. The number of students and limited time available to high school foreign language teachers often inhibits the formal assessment of speaking, but with some discipline and practice, teachers can devise practical oral "prochievement" exams resulting in accurate and constructive feedback for students. And most importantly, such testing-- "small and often"-- reinforces to students the idea that learning to speak is important, encouraging them to take more seriously those classroom tasks which also form the basis of their test grades.

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Teaching Methodologies for Special Needs Students in the Foreign Language Classroom

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December 1997

Introduction

Our schools are encountering many serious issues related to children with learning or behavioral disabilities. A child with disabilities has the right, just like any other child, to an equal education, and with the current trend of inclusion in the schools today, the issue of how to deal with these disabilities is becoming more widespread. In addition, the rise in the expectation of these students to meet certain foreign language requirements is causing many concerns. Despite the current research on teaching methodologies for special needs students in the regular classroom, specific methodologies for the foreign language classroom need to be researched in more detail.

Review of the Literature

There have been many legal struggles over the issue of inclusion in the United States. With the passage of Section 504 of the Rehabilitation Act in1973, the Individuals with Disabilities Act (IDEA) in 1975, the reenactment of the IDEA and the Americans with Disabilities Act in 1990, disabled students are required by law not to be "excluded from participation in, denied benefits of, or be subjected to discrimination under any program or activity receiving federal assistance" (Gonzales, 1997). Whether these laws are helping or hindering these students is another issue in the education system today. For example, inclusion may be used unnecessarily to cut state program costs in order to avoid paying for special programs, not necessarily because it is beneficial for those students (Finn, 1996).

Two very common learning disabilities that are found in schools today are dyslexia and Attention Deficit Hyperactivity Disorder (ADHD). Dyslexia is "a disorder manifested by difficulty in learning to read despite conventional instruction, adequate intelligence, and

sociocultural opportunity" (NIH, 1993). ADHD is "a pattern of behavior that combines inattention and impulsivity, which can be present with or without hyperactivity" (Freeman, 1974).

Many different characteristics are involved in a learning disability, i.e. visual processing, auditory processing, language, memory, fine motor, and perceptual motor (Freeman, 1974). The specific characteristics of dyslexia include one or more of the following problems: difficulty in learning and remembering printed words, letter reversal, number reversal, persistent spelling errors, difficulty in writing, delayed or inadequate speech, and leaving out or inserting words while reading. The specific characteristics of ADHD are short attention span, inability to stay focused long enough to finish an assignment, difficulty shifting from one activity to another, and the inability to regulate emotions and behavior.

As a result of the inclusion of these students in the regular classroom, many teachers are adapting their styles to ensure that students have an environment in which they can learn despite their specific learning problems. General teaching methodologies for these students include doing activities that involve whole body movement, placing the student in the classroom where there are few distractions, finding a good neighbor to help the student, adjusting time limits and schedules, teaching organizational skills, controlling distractions, and helping the student avoid social problems. The teacher should not always give these students extremely easy assignments for fear of damaging their education in some way (Stevens, 1997).

There are many other techniques that are specific to the disabilities themselves. As far as the dyslexic student is concerned, the teacher should clearly state the objectives of a lesson, give explicit directions, use a variety of teaching methods, incorporate multisensory techniques, provide sequencing aids, increase wait time, and provide step-by-step instructional sheets for assignments. One of the most effective methods a teacher can use for a dyslexic student teaching him/her organizational and study skills, i.e. a daily calendar.

For the student with ADHD, the teacher should provide the student with clearly defined rules, develop routines for repetitive activities, help the student with organization, and give directions carefully. Other suggestions include finding appropriate seating for the student, keeping the classroom stimulating, using computers for learning and motivation, gearing assignments to attention span, planning ahead for transitions, helping students set goals, and providing frequent praise (Parker, 1992).

The majority of these general methodologies may be used in the foreign language classroom, but what are specifically recommended methodologies for foreign language teachers of learning disabled students? A major concern is that because learning disabled students have basic native language difficulties, most of them also have difficulties with foreign languages. As a result, many students are opting to request a waiver from foreign language courses or to substitute it. (Barr, 1993).

Most researchers agree that these students need to be taught learning strategies first. Then, the student would be able to develop an individual foreign language program, extend the years of foreign language study, take a course on metacognitive skills, decide on course substitutions or enroll where there is no language requirement (these options are more specific to university students). For all levels though, teaching through mulitsensory input and the Orton-Gillingham approach are agreed on as successful methodologies (Myer et al, 1989).

Special needs students encounter specific language difficulties that need to be considered when designing a foreign language class that is suitable to their needs. Much research involving testing these students supports this conclusion. Results have shown that students' native language skills appear to affect their ability to meet the demands of learning a foreign language. This evidence implies that educators should consider direct instruction in the phonology and syntax of the foreign language (Sparks et al, 1992). Despite all of the current research on this topic, much more research is necessary.

Methodology

The researcher decided that the best way to research this topic would be to interview several foreign language teachers in the private and public school systems at different levels, about teaching special needs students as well as to survey several learning disabled students about their thoughts on foreign language study by means of a questionnaire. These teachers are identified as Teachers A, C, and D in this study. A different interview was conducted with a special educator in a private middle school (Teacher B). Two informal interviews were done with a public school elementary French teacher who had several ADHD students (Teacher E), and a public middle school Spanish/French teacher of a severely Educably Mentally Handicapped (EMH) student (Teacher F). Two different teachers of special needs students were also observed, one a private middle school Spanish teacher of a non-included classroom (Teacher A), the other a public high school French teacher of an included classroom (Teacher G). The

questionnaire was given to the students of Teacher A and Teacher G. The researcher wanted to compare the results of the responses of students who are both included in the regular classroom and those who are not.

Results and Discussion

The researcher found all three methods of research: interviews, questionnaires, and observations, to be very insightful into the issue of what needs to be done to teach special needs students successfully in the foreign language classroom. Some advice that the researcher found helpful from the teacher interviews were constant assessment of the progress of these students in oral and in written form, understanding that the ability to recognize a learning disability comes with experience, refraining from singling these students out or making them feel less adequate because of their disability, teaching a subject as many different ways as possible, supplying the students with detailed instructions of all assignments, using a lot of repetition, teaching these students organizational skills, being patient with them, and not assuming that these students are lazy!

The questionnaires allowed the researcher to compare the responses of several students studying different languages at different levels in different classroom environments. The severely learning disabled students of Teacher A were satisfied with their class, but many felt that they did not want to continue studying a foreign language. All of them said that their tests were sometimes oral, that they never tape their readings, and that they never word process their assignments. The researcher thought this to be odd because all of these students have troubles with writing, and the teacher gives them oral assignments because she cannot read their writing.

The responses of the two included students of Teacher G were a little more discouraging. One of them said that French was too hard to understand and that he felt lost and confused all of the time. Both of them felt that the rest of the class was always advancing ahead of them. Some interesting overall statistics were that many of the students saw the benefit of studying a foreign language to improving their English language skills, and most of them did not feel that foreign language was particularly difficult.

The observations were beneficial to the researcher's knowledge of teaching methodologies for special needs students in the foreign language classroom. Patience and flexibility were most important in both cases (included and non-included classroom). Also, teaching through multisensory tactics allowed all students to succeed in some way.

The researcher learned that this topic is a very sensitive one. Too much time was spent dealing with the permission to do the research than with the actual research itself. The researcher recommends that future researchers of this topic actually work with learning disabled students in the foreign language classroom, because it is with them and the teachers that the true answers lie.

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Passive vs. Active Learning:
A Qualitative Study

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Introduction

Active learning has received considerable attention recently. Teachers and researchers, continually searching for a way to make classrooms better learning environments, have almost unanimously embraced active learning as a way for them to make students retain and use the information presented in class. Unlike traditional lecture environments, an active learning environment engages students in the learning process. Students must think about what they are doing, seeing, hearing, and saying, and it is this increased level of thought which researchers hypothesize will enhance students' memory and understanding of the subject matter. While there is much theoretical support behind active learning, there have been relatively few studies which qualitatively link the impact of an active learning environment to students' retention of information. The purpose of this study will be to measure if students in an active learning environment, specifically a role play environment, retain information better than in a lecture dominated classroom.

Review of Literature

While there is no clear cut definition of active learning, Meyers and Jones (1993) describe active learning as a process which "...provides opportunities for students to meaningfully talk and listen, write, read, and reflect on the content, ideas, issues, and concerns of an academic subject."

The tradition of active learning can be traced to Socrates, however the modern tradition has three primary sources: John Dewey, Kurt Lewin, and Jean Piaget (Kolb,1984). John Dewey is generally considered the father of "progressive" or "pragmatic" education in the United States. His philosophy of education (born out of research and writing in the early to mid 20th century) was heavily influenced by the idea that during the interactive period between the person and the

environment, thinking occurs, and from thinking comes education (Gutek,1997).

Kurt Lewin is recognized as the founder of American social psychology. While the scope of Lewin's work is vast, his contribution to the ideas of active learning stem from his work with the T-group, or training group. Lewin (writing in the mid 20th century) stressed that a considerable amount of learning takes place in these T-groups when open discussion and participation are encouraged, not just when the leader is the dominant figure (Kolb,1984).

Jean Piaget approached active learning from the field of developmental psychology (in the early and mid 20th century). Piaget's main contributions to the ideas of active learning were his research involving developmental stages and the ideas of schema, assimilation, and accommodation. Piaget felt that learning happened through experiences, as simply seeing and doing the same things every day would not allow children to assimilate and accommodate their existing schemas (Kolb,1984).

The philosophical (Dewey), sociological (Lewin), and psychological (Piaget) foundations of active learning have spurred myriad methods and approaches to active learning. While many of these approaches differ in various ways, most have similar characteristics. These characteristics of active learning include: (1) learning is a process and should not be seen in terms of an outcome, (2) learning is a continuous, life long process grounded in experience, (3) the process of learning requires resolution of conflicts, (4) learning is a holistic process of adaptation to the world, and (5) learning involves translation between the person and environment (Kolb, 1984).

There is much theoretical evidence to the efficacy of active learning. The most persuasive of this literature has to do with the psychology of memory, or encoding and then retrieving information from long term memory (based on the Levels of Processing model of memory). Active learning can promote encoding and retrieval by: linking new information to old, helping student to identify potential applications to new information, providing useful contextual cues, using evaluative criteria for decisions or solutions to problems, and using evaluative criteria to determine when objectives have been reached (Di Vesta and Peverly 1984).

Nance and Nance (1990) took a straightforward approach to studying active learning. They asked 116 college students who had gotten out of a class approximately five minutes prior to the interview two types of questions: what did you learn in your class, and what type of teaching method was used? Only five percent of the students could relate specific statements concerning the material that had just been covered, while 92% of the students indicated that their classes had been conducted with a primarily lecture style. Nance and Nance also found out that 86% of the students felt that their task was only to attend class, and not to learn there. What this research reveals is that students have been conditioned not to think in classrooms when teachers use a primarily lecture style.

Based on the methods used by Nance and Nance, this study will attempt to determine if students involved in an active learning environment (specifically a role play environment) learn more in the classroom than students involved in a traditional lecture classroom.

Methodology

Prior to the study, the researcher met with the teacher of a freshman Economics, Legal Systems, and Politics (ELP) class, in which the study was to be conducted, to discuss the teacher's objectives for the upcoming unit on trade. The teacher provided a list of objectives and a calendar for that unit's activities. The first day of the unit consisted primarily of a lecture concerning international trade. With ten minutes left in the class period, the students were asked to clear their desks, were given a blank sheet of paper, and were asked to write down everything they learned during that day's lesson. The second day of the unit consisted primarily of a role play in which the students were grouped into fictitious countries with different natural resources and trading needs, and acted out two different trade scenarios. As in the first day, with ten minutes remaining in class the students were asked to clear their desks, given a blank sheet of paper, and asked to write down anything they had learned during that day's lesson.

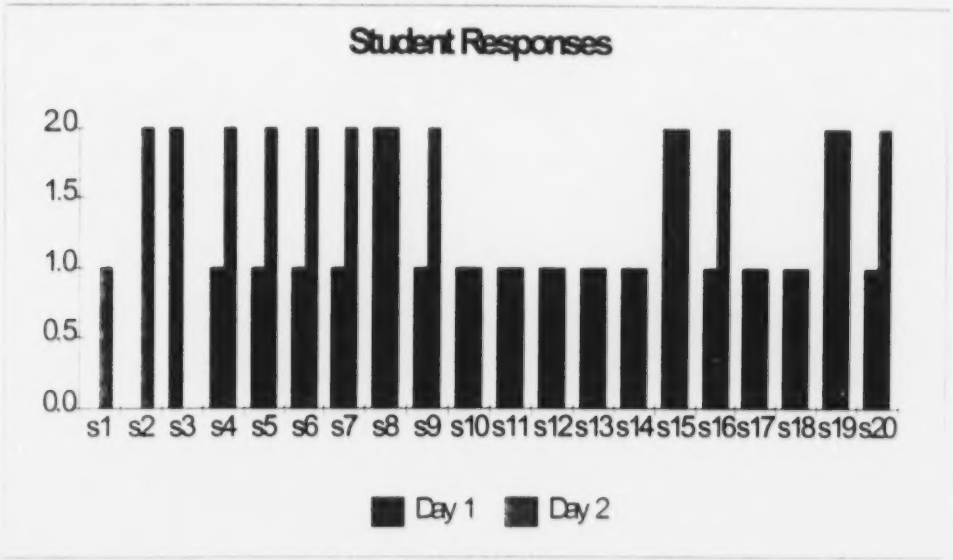
Once the results were collected, the researcher evaluated the students' responses for each days' lesson. The criteria for the evaluation was based on the goals the teacher had set for the unit on trade. The responses for each day were put into one of two categories: those which evidenced no understanding of trade beyond terminology (these papers were given a grade of 1) and those which evidenced an understanding of trade beyond simple terminology (these papers were given a grade of 2). Once the papers for each days' lesson were separated into the two categories, the results were summarized and a t-test was run to determine if there was a significant difference between what the students had learned each day.

Results and Conclusions

Based on the results of the t-test, there was a significant difference between what the students learned in the first day and the second day of the unit. The students' mean score from the first day's lesson was 1.22 (as discussed above, the students which demonstrated very little understanding of trade received a score of 1, while students who demonstrated an understanding of trade received a score of 2) with a standard deviation of 0.43. On the second day, the students' mean score was 1.58 with a standard deviation of 0.51. The resulting t-test revealed a t-value of -3.35 with 16 degrees of freedom and a corresponding probability of 0.004. Using the < 0.05 threshold for probability, the results conclude that there was a significant difference between the students' responses on the first day and the second day of the unit.

It should also be noted that there were seven students whose performance differed

between the first and second day. As the chart below reveals, all seven students demonstrated that they learned more the second day than the first.



While there are weaknesses to this study (these will be discussed below), observations from the classroom and a closer analysis of the students' responses back up these results. On the first day of the study the students were primarily engaged in a lecture/discussion environment. While this was a passive learning experience for the students, it should not be viewed as an environment in which little information was being discussed. The teacher explained a range of issues related to trade and continually asked thoughtful, currently relevant questions which required students to think through certain trade scenarios. Despite the range of topics discussed and the thought provoking questions asked, only four of the first day's 18 students provided evidence that they understood the material on more than a surface level, as the mean score for the first day was 1.22.

The second day of the study proved to be a wonderful example of an active learning environment, as the students became very involved in the role play activity. The results of this active learning were profound. Seven students who had the previous day shown little or no understanding of trade, demonstrated that they had learned a considerable amount about trade during the role play, as the mean score for the second day grew to 1.58. Also, many of the students who received a score of 2, related what they had learned in the context of the role play, thus re-enforcing the theory that a relevant context helps students to retain and recall information.

Despite the statistically significant difference between the responses of the students and the close analysis of the students' responses, there are two main flaws in the structure of this

study which confound its conclusions. The first flaw deals with the sequence of events. During the first day of the study, the students were seeing the material on trade for the first time. On the second day of the study, however, the students had already been exposed to much of the information. The second main flaw to the study is the evaluative technique used for the students' responses. Students who simply listed terms were not given credit for an in-depth understanding because there was no way to evaluate whether those terms meant anything to the student, or if they were just being listed from rote memory. The latter was assumed. Also, quality and quantity of understanding were not measured. Future study should address these issues.

Despite its structural flaws, there is much that can be learned from this study. The students in this classroom responded in an overwhelmingly positive way to the active learning/role play activity, and their retention of the material used in that class was significantly higher than in the passive learning/lecture classroom. The statistical data was backed up by closer analysis of the students' responses, as the role play game helped students to store and retrieve concepts from the class in a recognizable context. These results suggest that an active approach to learning in the form of role play helps students retain information better, and recall it more readily.

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